

THE PHOTO-LITHOGRAPHER

PUBLISHED IN THE INTERESTS OF LITHOGRAPHERS TO INCREASE SALES EFFICIENCY AND QUALITY

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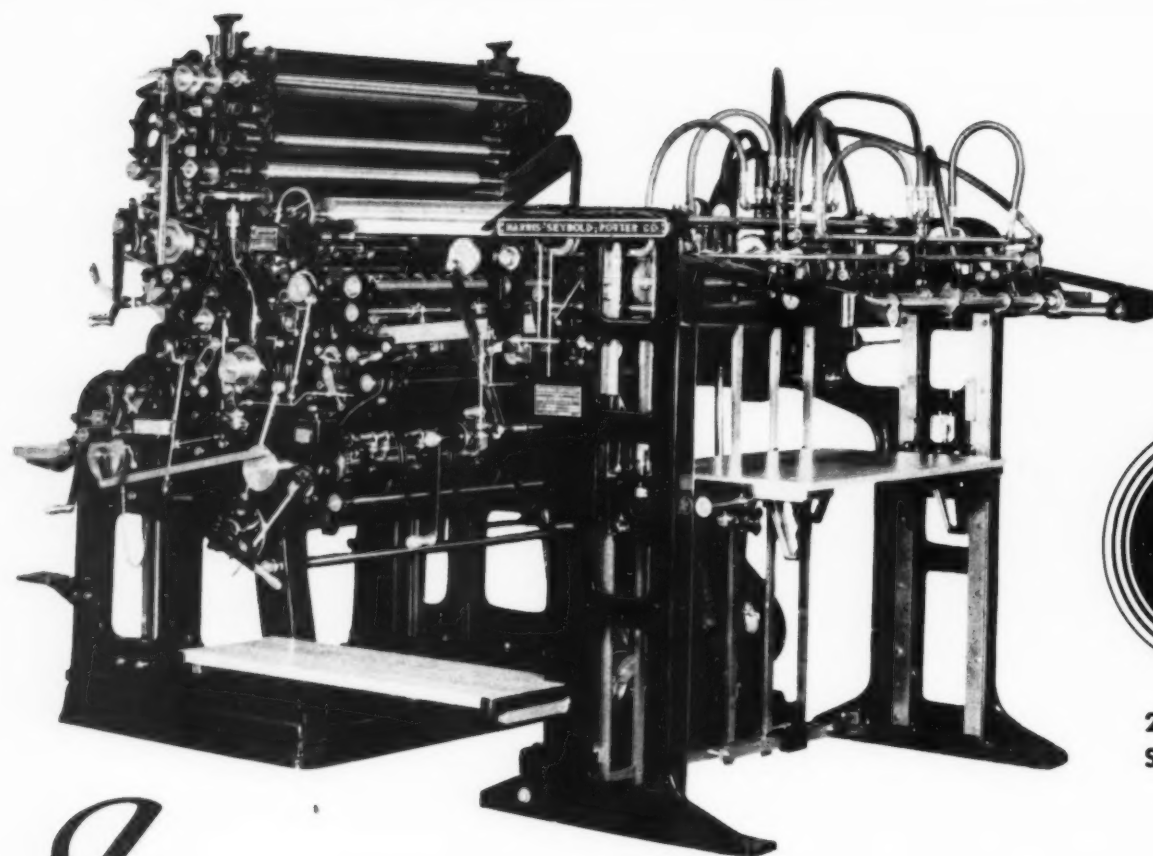
Official Organ of the National Association of Photo-Lithographers, Published monthly by Walter E. Soderstrom, 1776 Broadway, New York, N. Y.

Advertising Rates: Advertising rates made known on application. Closing date for copy, the fifteenth of the month previous to the date of issue.

Subscription Rates: \$3.00 per year in the United States. \$4.00 per year in Canada. Single copies 30 cents. Acceptance under the Act of June 5th, 1934. Authorized November 14, 1935.

VOLUME 5, No. 3 MARCH, 1937

THE SELLING OF PHOTO-OFFSET LITHOGRAPHY . . .	By William Wolfson	12
A DRY AND THIRSTY LAND .	By Eugene Ulsh	15
MAKING AN ALBUMEN PLATE	By Dr. L. R. Meloy	20
WINDOW DISPLAY—THE CLINCHER MEDIUM	By N. J. Leigh	26
NEAT BUT NOT GOUDY . .	By Lewis C. Gandy	33
MAPS		40
DOT ETCHING	By Robert F. Reed	49
PHOTO-LITHOGRAPHIC BOOK ILLUSTRATION		52
TECHNICAL DEPARTMENT .	By Dr. L. R. Meloy	60
LITHOGRAPHIC ABSTRACTS		65



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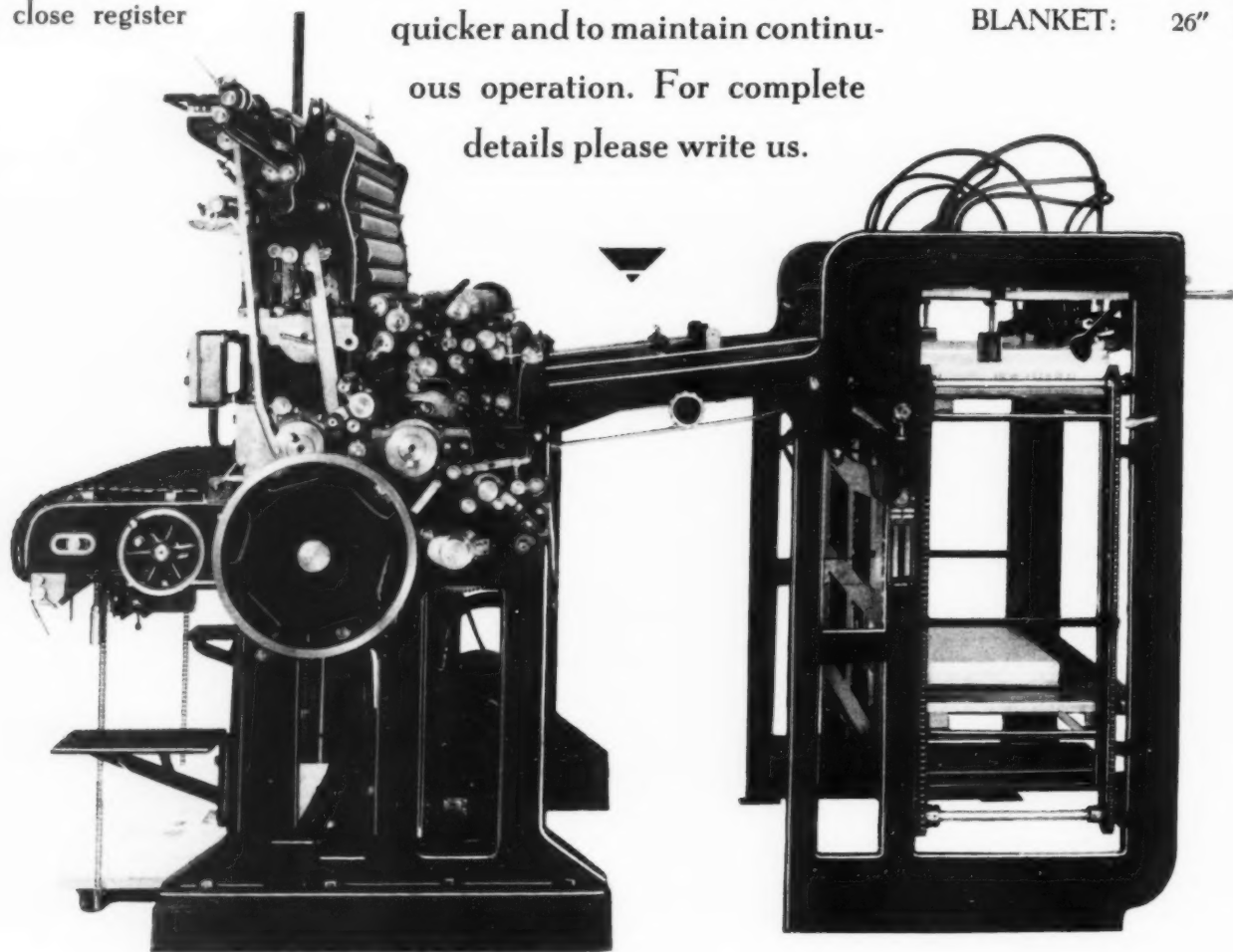
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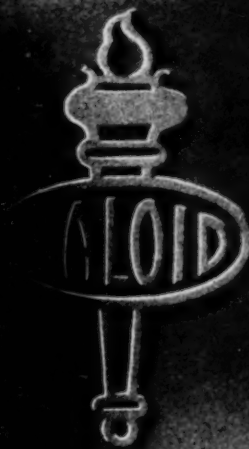
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The PHOTO-LITHOGRAPHER

PUBLISHED IN THE INTERESTS OF LITHOGRAPHERS TO INCREASE SALES EFFICIENCY AND QUALITY

VOLUME 5

MARCH, 1937

NUMBER 3

PUBLISHER'S ANNOUNCEMENT

STARTING with this issue, Mr. Lewis C. Gandy will be connected with THE PHOTO-LITHOGRAPHER, as associate editor. He needs no introduction to many of the readers since he is well known in the various fields of the graphic arts as well as advertising.

Mastering the compositor's trade early in life, he was at one time connected with the Lanston Monotype Machine Company as typographic expert, and later as sales correspondent and advertising copywriter. He also edited in his spare time a magazine, *The Master Printer*, which was one of the first publications to further the organization and cost-finding movements in the letterpress branch of the printing industry.

Always believing that every job of printing should be produced in the best possible way, for several years Mr. Gandy was editor of that beautiful publication, *The Printing Art*, bound volumes of which are still preserved in large public libraries, as well as in the smaller libraries maintained by large engraving and printing establishments. Containing as they do the best examples of fine printing and color engraving then produced in this country and Europe, they continue to offer valuable suggestions.

Returning to direct connection with the printing business, and devoting all his efforts to the direction of several large plants, Mr. Gandy nevertheless found time to write many informative articles for various magazines on different phases of printing, engraving, and advertising.

He was also for several years secretary of the Boston Society of Printers, of which he is now an honorary member; instructor in typography at the Wentworth Institute in Boston; and also served as a member of the Bok Jury of Harvard Advertising Awards.

Always interested in the manufacture of books, he has recently found time to design, edit, and attend to the manufacturing details of about forty volumes dealing with various phases of American history, and also to write several books about the history of the Early Far West.

We are quite sure that under the energetic editorship of Mr. Gandy much of interest will be added THE PHOTO-LITHOGRAPHER.

Lithographers to Meet at White Sulphur Springs

THE Lithographers National Association, Inc., announces that its 32d Annual Convention and Exhibition will be held this year at White Sulphur Springs, West Virginia, on May 11 to 13, inclusive.

A program is being prepared, which will cover the developed work being done by the Association in enlarging the market for lithography by impressing upon customers and prospective customers the beautiful results that can be obtained and remarkable flexibility of the lithographic process.

The Lithographers National Association, Inc., also announces that it will release shortly the findings of a careful investigation it has made of the facts connected with window display advertising.

WINDOW DISPLAY RESEARCH

DR. MILLER McCLINTOCK, Director, Advertising Research Foundation and in charge of the National Window Display Research, is planning to release the report of their findings within the next few months. The National Window Display Research is a co-operative study conducted under the sponsorship of the lithographic and related industries supplying window display materials or services. This Foundation has been established by the Association of National Advertisers and the American Association of Advertising Agencies, to conduct such studies of basic advertising problems. It is the logical outgrowth of a demand for more scientific facts about all phases of advertising, and likewise of the growth of co-operative enterprise in obtaining these facts. The purpose of the National Window Display Research is to provide a simple, uniform, and acceptable manner of determining the circulation value of Window Display space. In addition, the studies are designed to reveal facts regarding the characteristics and qualities of window display advertising, pointing, it is hoped, to a more effective, economical and scientific use of the medium.

THE SELLING OF PHOTO-OFFSET LITHOGRAPHY

The First of a Series of "Brass Tack" Articles

By WILLIAM WOLFSON

I HAVE just read the introductory chapter of a book on selling. The author begins by declaring that all of us are "constantly salesminded," and from birth until death. He cites instances: The baby selling his mother on the idea of a meal; and runs through a lifetime in one paragraph, ending with the old man of eighty-odd attempting to sell his unseen God on the absolution of his sins through prayer.

As I see it, there is not even an attempt at selling in all of these incidents. Rather, *the voicing of a need or desire and the demand or hope that these be satisfied.* What a sinecure for any salesman if all people he calls upon were to express their requirements, or to cry, plead, or beg for his wares!

Frankly, it is through the perusal of a number of books on salesmanship that I begin this series of articles. Not that I set myself up as a superior dispenser of simon-pure principles of selling. Not because these volumes lack inspiration, practical facts, or information of value. *They are not specific, and do not devote themselves to one particular phase of selling activity—that of the graphic arts field.*

It is because of this single factor that the reader of books on selling cannot apply many of the recommendations presented. For example, one writer offers ready-made answers to objections. Here is one intended to cover and surmount the obstacle so frequently encountered by the salesman of photo-offset lithography operating in big centers with plenty of competition—that of a competitor's lower price:

"I am perfectly willing to believe that, but at the same time you get merchandise that is of lesser quality than this. After all, you get only what you pay for in this world. You cannot get high quality at a low price; that is the millenium; but you can pay a fair price and get quality so high that the eventual cost of that merchandise is less than the price quoted on cheap merchandise. That is what produces repeat business from your customers and cuts down the expensive returned-goods evil. And that is what will bring us repeat business from you!"

Or this:

"I don't doubt that you can beat our price in the least; but the one thing you cannot do is to equal our quality. So far as price alone is concerned, almost any competitor or ours can beat our price, especially if he knows we are in

the running. But after all, price itself is the least important element. One must consider so many more vitally important factors in any merchandise or trading transaction. Prices are constantly subject to mutilation and fluctuation, but that is not the case with long-standing reputations for integrity and fair dealing such as we enjoy."

Do you think you would get the order on an ordinary job were you to recite either of the two above effusions when your estimate is, say, one hundred dollars higher than a competitor's, and who is able to legitimately quote the lower figure because of equipment not possessed by your house? Not in a million years!

But because this happens to be unsuitable does not mean that all works on salesmanship should be condemned due to their general nature. There is much that is beneficial. The trouble is that most salesmen do not think hard enough; do not work out a specific application from a fundamental observation, comment, or law. And this, actually, is the purpose of this series of articles—to apply sound principles to photo-offset lithographic selling.

You have heard and read the following many times: "Sell the advantages of your merchandise rather than the goods." Don't sell an automobile, sell quick and convenient transportation, the joys of rolling down smooth roads. Don't sell a tooth-brush, sell prevention of tooth decay. Etc.

The photo-offset salesman, then, is impressed with this idea. To merely resolve "I will not sell photo-offset lithography but rather the flexibility, the economy, the desirability of this method of production; also the fine impression a quality job will make upon recipients," is not enough. Even though the salesman talks himself hoarse at each call does not mean a proper application.

It must be remembered that the salesman is active. He is making calls, either on fresh and possible prospects, following up earlier visits, seeing customers, going on leads provided by the house. If he mistakenly thinks that all he has to do is to prepare a sales-talk harping on what photo-offset lithography can do for the buyer, he will not go far; and in a brief period of time this so-called application is either dropped for something new which attracts him, or he sours and shoves aside all further suggestions for advancement in his specialty.

(Continued on page 20)

First of all, often a photo-offset lithographic job is costlier than letterpress. The process may often be lower in price, but not always. To follow through logically, the salesman must then do considerable research, list every possible type of job which can be done more economically by photo-offset. Unfortunately this leads him to "combination run" stuff, hundreds and hundreds of little orders, stiff competition in the field perhaps. The same devotion on bigger things will net him a greater revenue and the volume of sales his house would welcome.

As to the flexibility, the ease, the comparative speed in execution of orders, these are splendid talking points for prospects that are not conversant with photo-offset lithography. To those who know the method and are familiar with its advantages, such points are an old story.

Thus we come to another variation of the improper application of the very same idea. Another salesman may come to another conclusion—and say to himself:

"From now on, I'll tell the people I see how they can increase sales through use of photo-offset; how fine catalogues, booklets, broadsides, folders, window-streamers, displays, bulletins, notices, house-organs, sales-manuals, and things of that sort will prove helpful."

Here, again, there is no true application of the original idea. For this is what the salesman will be up against.

One. He will encounter any number of firms who do little or no direct-mail or other advertising. Yes, they can be educated, but such conversion is a lengthy process, might take years, and the salesman will starve in the meanwhile.

Two. On the other hand, he will come across users of direct mail. Were the salesman to bring them a perfect formula for increasing the percentage of inquiries alone, which could be turned into a profitable number of sales, they will receive him with open arms. It would not matter whether he sells gravure, letterpress, multigraphing, or mimeographing, or whether he sells no production method at all.

The question is, can the salesman back up his claims; has he the time and the ability to delve into a prospect's business, report on his findings, present a definite plan; can he write copy; does he know how to merchandise; and—oh, well, what's the use of stretching it out. Rare indeed is the combination of salesman and advertising and merchandising and promotional man!

"So, what!" (That is you, the reader, who exclaims. You might go further and say that everything I have written so far is true; but that you are growing impatient, and want to know what the heck is a proper and at the same time profitable application of this idea of not selling photo-offset lithography but selling the benefits instead.) Well, let's go to it, in dead earnest. Here's how!

Unless I was mentally equipped, I would let the angles

of advertising, marketing, etc. alone. I would give credit to the people I see for having brains enough to run their own business efficiently. I would avoid contacting repeatedly concerns who do no direct-mail and concentrate on those who used it.

Furthermore (and this is Step One) I would do considerable prospecting in order to compile a list of potential customers. I would circulate among direct-mail users, as stated. These I would further qualify before they were put upon my special list. To qualify them, I would make the following proposal:

"Mr. Jones, the house I represent is an active photo-offset lithographic establishment. Through our plant passes an infinite variety of interesting jobs. Since we specialize on direct-mail pieces, catalogues, etc., most of the work we do belongs in these categories. If agreeable to you, I should like to show you from time to time some of the most interesting pieces. Undoubtedly, from the selection I'll present upon occasion, you will find many ideas which you could yourself employ advantageously; these, too, will suggest many new variations and applications which you can profitably incorporate in your own direct-mail. Mind, I do not propose to bring you anything done for direct competitors, especially recently-run jobs, for you would not like your own specimens shown to your competitors. Nevertheless, there is a wealth of ideas you can glean in periodically looking over my selections."

Please observe what I am doing. Without barging into a complicated and delicate situation—that of involving myself in the preparation and creation of someone's direct-mail activities, and without repeating the triteness of an old, old story—I am actually showing the advantages of photo-offset lithography, *as it is being already utilized*. Note there is nothing of the future; instead, what has and is being done.

The plan hinges upon spending time to gather interesting and pleasing samples. But what a snap that is in comparison to hazy schemes, half-baked ideas, and other things I must cook up to bring to my prospect.

Do you not think that after I compile a list of a hundred prospects who are willing to receive me periodically and look over a new selection of samples, I will begin to click on orders from this group?

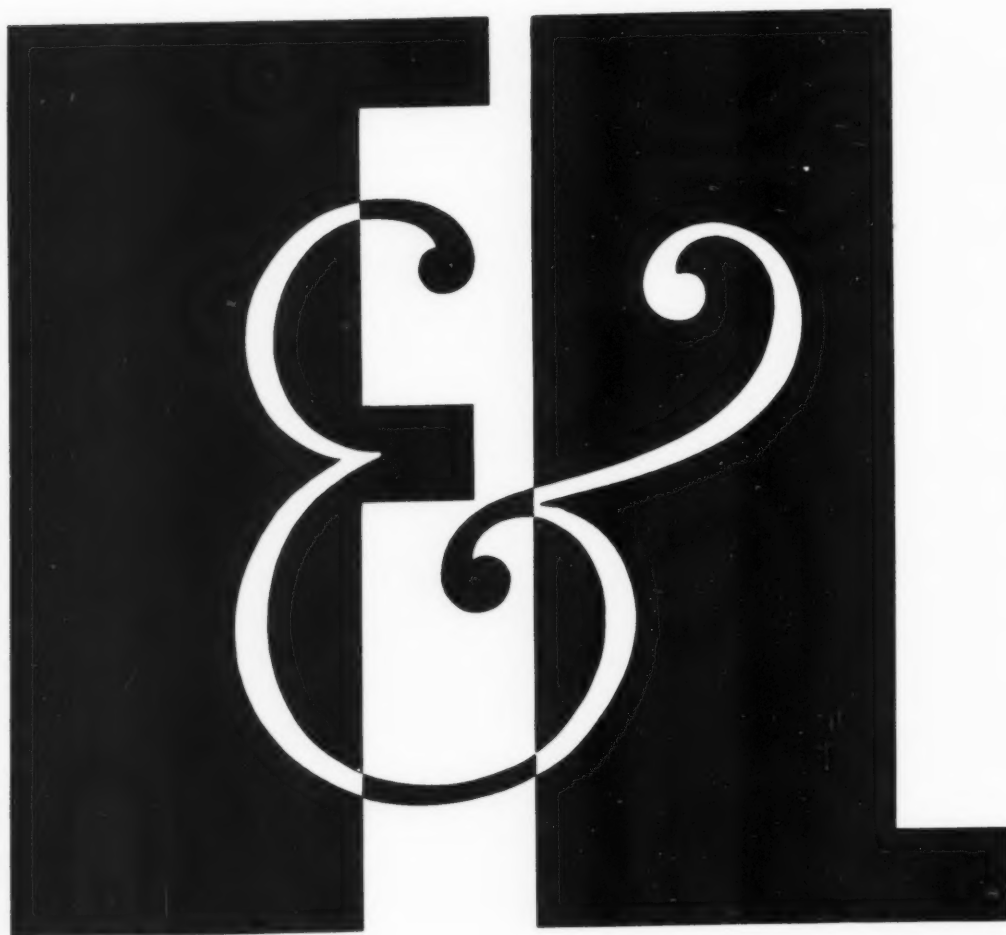
Now, immaterial whether you answer this particular question, let me put another. Don't you think that my application of the idea is a good one?

I hope your answer is in the affirmative. I trust that you have been impressed to the extent of wanting to try it out yourself. Because, then, I'd cry: "Whoa! I've given you but half the plan. The second part is just as important as the first!"

(Continued on page 55)

L I T H O

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A DRY AND THIRSTY LAND

By EUGENE ULSH

Director Varityper Division Knight-Counihan Co., San Francisco, Calif.

It is likely that only a few of those who read this article have seen a mirage, but all of us have read of them at some time or other.

Just to refresh our memories, mirages, especially the desert variety, take the form of flowing brooks or cool lakes surrounded by shady trees. They occur usually in the midst of hot, sandy wastes, and they are especially inviting to one who is tired and thirsty.

Upon approaching such an apparent haven it disappears into thin air, leaving the victim much worse off than before.

West of the Rockies, especially in the smaller cities, we are being disappointed occasionally by mirages in the photo-lithographic industry. They are more deplorable because they need not occur at all in an industry which has so many benefits for both producer and his customer. They are, almost without exception, the results of inexperienced operators.

These mirages are retarding the progress of photo-lithography in some parts of this vast territory.

Who is to blame for this condition?

Some of the fault lies with the agents of the manufacturers of small presses. The information they give the purchaser regarding operation of the equipment is altogether too sketchy, and sometimes it is misleading.

The balance of the fault we can lay at the feet of the purchaser but he, after all, can be forgiven because of his lack of practical experience, both in production and in appreciation of the type of work best adapted to photo-lithography.

The following is an example of the mirage as experienced by a really talented man who we will call Mr. Jones.

Mr. Jones was in the letter-shop

business. He had only a small shop employing two or three people, but he had every reason to be proud of his work. He, himself, did all of the layout and art work on the stencils, and no work was delivered unless it served as a monument to his little organization.

Two years ago he went east to his industry's convention. There, for the first time, the practicability of offset-lithography was brought home to him. He realized that many of his present customers could use this process to advantage and that then his income would increase three-fold.

The first thing he did was to find out the selling prices of such work. At that time, the eastern prices were around \$2 for the first hundred $8\frac{1}{2} \times 11$. The next step was to decide on equipment. Of course, he selected the smallest non-commercial press and, after investigating it as thoroughly as his total lack of knowledge permitted, he made the purchase. It was decided that it would not be necessary to include camera equipment at the moment, for the agency was only thirty-eight miles from his town and he could have his plates made there. This service was only forty-five minutes away, but inasmuch as he expected to have a complete little plant within a year, he got the requisite information on camera work and plate making. Here is his story as close as I can remember:

It seems (so he thought then) that all that is necessary to make a plate is to stick the copy up on the board, turn on the lights and expose it for thirty or forty seconds. Then it takes only a couple of minutes to develop the negative in solution No. 1. A short bath in solution No. 2, with a few minutes washing, and there is your negative. Put the plate in the whirler and pour on a little of solution No.

3. Take the plate out, put it in the vacuum frame, and after an exposure of a couple of minutes, a quick rub with solution No. 4 makes it ready to put on the press, which takes about fifteen seconds. No matter how you figure it, you should have a plate within ten to fifteen minutes of actual work, and the routine is so simple that a fifteen-year old office-boy can master it within a few days.

As Mr. Jones turned westward, he envisioned a beautiful oasis on the horizon.

A few minor details were, thoughtlessly, not brought to his attention. First, due to his lack of understanding of the process, he did not realize that the selling price quoted in the East was based on a combination run, and that the plate-making cost was divided between fifteen other jobs on the same plate. Then he accepted without question the claim that as fine a quality of work could be produced on the small presses as on the larger ones. There are other odds and ends of forgotten details, but they are incidental to the primary issue. Let's review Mr. Jones' first job.

He called upon a customer for whom he had been doing work for several years. He was fortunate (or rather unfortunate) in that the customer was contemplating a new parts catalog—an eight page, $8\frac{1}{2} \times 11$ saddle stitch on eggshell plate, incorporating about eighteen halftones. As Mr. Jones saw it, it was a gift from heaven. And the customer? He thought there would now be an end to expensive electros, photograph specifications from the old catalog eliminating practically all type composition, etc. It would cut the letterpress cost almost in half, and the cost of ten thousand eight-page catalogs with eighteen halftones is large enough to put a sizable dent in any



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printing budget. So began the customer's first sight of the babbling brook.

I wish that it were possible for everyone to hear firsthand about the nightmare resulting from that job. The first copy was pasted up with library paste and had to be done over. Several of the halftones were scaled improperly. The customer made a concession on this, but it was the beginning of a bad taste.

At last the job was ready to run.

When the plates "walked off" before he got five hundred copies, he decided that it was the fault of the coated stock. The customer agreed to accept bond for by this time his job was over a week late and he was willing to do almost anything to get it.

Jones then had two sets of plates made, and worked forty-eight hours without sleep to finish the run.

In spite of his earnest and extraordinary efforts, inexperience in the technique of photo-lithography exacted its toll. The finished job was far from satisfactory both to Jones and to his customer.

The agent who sold the small press to Jones neglected to temper his enthusiasm with explicit information and the caution that even small presses require experienced operators if they are to be counted on for first-class work.

True, the small presses can turn out excellent work in the hands of men with an aptitude for photo-lithography after much less training than is required for those who operate large presses. But no photo-lithographic machine is an exception to the fact that some experience is necessary for the efficient operation of any machine.

And so . . . two once enthusiastic individuals found themselves standing, not in the cooling shade of palm trees quaffing the refreshing waters of profit, but in the shimmering hot sands of disappointment.

I am happy to say that Mr. Jones

finally is getting to the point where he can turn out work of salable quality. His cost of production, however, still is more than it should be.

Within the last two years, I have interviewed at least a half dozen men, in a territory bounded by Washington, California, Montana, and Texas, who have had similar experiences and have heard of at least twice as many more. Due to lack of practical experience, the costs of production mount to such heights as to make prohibitive the general acceptance of photo-lithography.

Occasionally in my travels I have run across an oasis. The most outstanding is the practical way in which Les Hunter, President of the Pacific Stationery and Printing Company, started, and I beseech newcomers who can to follow his example. He did not accept the theory that one can learn to operate even a small press overnight. Instead he secured the services of an offset pressman of many years' experience. Then he employed a technical expert, a man familiar with every phase of the process from the camera to the press, to spend some time with the members of the department. The result was that the first job off the press was a compliment to the process. I was particularly interested because the masters were composed on the Vari-typer, which I was representing at that time.

Unfortunately there are few, especially the one-man shops, who can afford to follow Mr. Hunter's example, and they must depend upon the agent of the equipment for their training. I have found several instances where methods are being taught that have been discarded by modern shops for several years. I do not think that all of the press manufacturers are aware of this condition. If they were, I am sure they would give more attention to the training of their representative.

There should be some method by which the purchasers of such equip-

ment can be fully informed regarding the technical requirements in photo-lithography, even when done on small presses. This would go a long way toward eliminating the prevalent ill feeling against photo-offset in this territory. We are beginning to make some promotional progress in the larger cities, but the West is a large place and the condition is thriving. It can be destroyed only by proper education, and this must be, for our own self-preservation, the responsibility of every individual associated with the industry. When it is overcome, the producer will be enabled to give his customer satisfactory work at prices that will benefit both. This is all they ask and upon the attainment of this goal, the mirage will materialize into a substantial reality.

Going to Make a Speech—By E. St. Elmo Lewis. The Ronald Press Company, New York. 359 pages. Price, \$3.00.

Mr. Lewis is a well-known figure in the twin worlds of business and of advertising, and during the past thirty years has made over 2,000 speeches to audiences of all kinds—men, women, children, business and trade associations, clubs, colleges, political conferences, etc. He is therefore well qualified to advise anyone who desires to gain some facility as a public speaker. The book is divided into twenty-eight chapters, and discusses in a clear and logical way how to prepare a speech to suit any kind of audience, and what is of even greater importance, how to deliver it. The author has the gift of clear expression, plus a considerable measure of wit and humor, hence the book is fascinating reading, in that respect being quite unlike many educational books. It is a worth-while manual, a guide that will equip any business man for the real task which confronts him when called upon to make a public address—to hold the interest of his audience, and leave with them an impression not soon to be forgotten.

THE PHOTO-LITHOGRAPHER'S MANUAL

THE PHOTO-LITHOGRAPHER'S MANUAL is now in type and will soon be lithographed. This 8½" x 11" volume has grown in editorial content to a point where it forms an invaluable reference guide to both employer and employee. Copies at four dollars each should be ready for mailing within a few weeks.

The book will contain many chapters on Selling, Production, and Management, and other related data. Among the articles to be included are:

PRODUCTION

The Invention of Lithography
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Fundamentals of Camera Construction and Operation
Chemistry of Photography
Making Paper, Film, Dry, and Wet-plate Negatives
Principles of Enlargement and Reduction

Retouching for Color in Lithography
Making an Albumin Plate
Preparing the Plate for the Press
The Deep-etch Plate
Summary of Plate-making Operations
Press-room Problems and How They May be Overcome
Dot-Etching in Lithography

SELLING

Opportunities for the Salesman in the Photo-lithographic Industry
What Should a Salesman Know
A Complete Photo-lithographic Sales Campaign
The Basis of Successful Selling

The Salesman and the Estimator
Sticking to a Price
Suggestions on How to Build a Price-list to Serve the Buyer
Quality Advertising Pays Real Dividends

MANAGEMENT

Selecting Paper for the Job
Selecting an Ink-supplier
Ink Problems and How They Can be Overcome

Handling Office Routine in a Lithographic Plant
Methods of Compensating Salesmen
The Responsibility of the Foreman
Building Efficiency and Esprit de Corps

The above is far from a complete list of the valuable articles carried in The Photo-Lithographer's Manual. The order-blank on this page, when returned to the publisher, will insure your receiving copies of this helpful work.

Date

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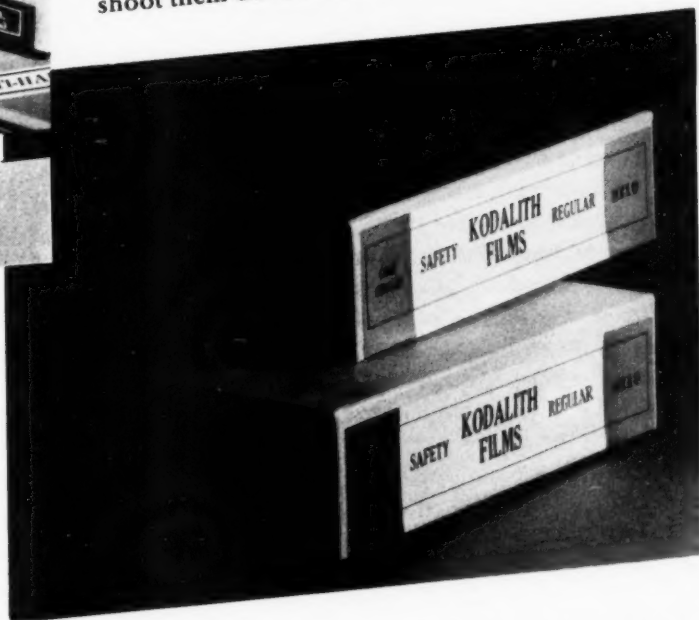
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EASTMAN KODAK CO., Graphic Arts Dept., Rochester, N. Y.

Making an Albumen Plate

By DR. L. R. MELOY

IN this paper we will consider the albumen method. In another paper attention will be given to preparing this type of plate for the press and to keeping it in good condition thereafter.

The albumen method known throughout the industry as the standard albumen method, is the best of its type in existence. You can be assured that it will give excellent results if you use your head when using the method. It is impossible to describe this process or any other so that a schoolboy or girl, as some have claimed, can use it satisfactorily. Therefore, the assertion that the operator must use his head. Having made any number of albumen plates, I could, of course, stand beside the average operator and direct him so that he would get good plates. Yet if he were to take the description of the method and follow the instructions one hundred percent, without reading "between the lines," he would not get good plates half of the time. To preclude possible misunderstanding, I repeat that the method is detailed as well as this type of method can be. But a description can't do the impossible. Intelligent use of this method necessitates, as I see it, reading and understanding what was accomplished in the research carried on when getting at the fundamentals. The albumen method, generally speaking, is not simple. Even so, intelligent use of the standard method will enable you to avoid the usual failures due to over-exposures, scum, image walking off the plate, etc.

It is not difficult to prepare the bichromated albumen solution. The first step is to make a cheesecloth bag of the size needed for holding the albumen you want to dissolve at one time. This is usually done by sewing a draw-string around a circular pad that is ten to twelve inches in diameter. It may be larger or smaller dependent upon one's needs. This pad, by the way, should be made up of twelve to sixteen thicknesses of cheese-cloth. Twelve thicknesses of certain type would not be enough. So use your intelligence when you make a bag so as to insure the correct thickness of material. It can be done.

The second requirement is an earthen or a glass-ware jar, large enough so that when the cheesecloth bag containing a few ounces of albumen is suspended in it, the bag will not touch either the sides or the bottom. Put about four and one-half ounces of albu-

men in the bag, pull the drawstring and suspend the bag by means of a stick across the top of a jar into which has been placed some twenty-two ounces of water. Be careful that the albumen is below the top of the water and that the sides and bottom of the bag do not touch the jar.

It is very important that the albumen should always be dissolved in the manner indicated even if you are not using this method. This is because albumen contains a great deal of insoluble matter. I want to emphasize the necessity of doing just as recommended. Follow these suggestions and you'll get somewhere. Try short-cuts and you'll come to grief. For, as stated, albumen contains insolubles which it is necessary to prevent getting into the coating solution.

Usually, some, but not all, of the insoluble matter filters out with the result that when you are finished the solution is not clear. When the bag method is used, however, your solution is clear, thereby indicating the complete absence of insoluble matter. No matter how high a grade of albumen you are using, follow this advice by allowing it to soak or dissolve for three or four hours. Then remove the bag and look inside. You will be surprised at the amount of insoluble matter remaining. It is this insoluble matter that must be prevented from getting through into your solution, otherwise tiny spots, pinholes, and other defects will develop.

It requires between two and one-half and three hours to dissolve the albumen. The best method, I have found, is to estimate how much albumen solution will be needed for the next day, then put that much to soak at night just before leaving the plant. It will dissolve nicely by morning yet not enough time will have elapsed to cause it to go sour. If ever in doubt regarding the solution staying sweet over night, put into the refrigerator the jar in which the albumen is soaking.

You may recall the tale about my friend with Scotch inclinations who proceeded to squeeze the bag before removing it in spite of directions. And how the insoluble matter went through into the solution, thus forever ruining it for coating purposes. Regardless of the method of filtering used, you can't possibly take that insoluble matter out again after having squeezed it back into the solution.

After removing the bag from the jar, the directions say, "stir the solution thoroughly." This is necessary because when solution is accomplished by the convection method, the heavier parts of the solution assemble at the bottom of the jar or beaker. Now put some of the solution into the cylinder and use a hydrometer graduated in tenths of a degree, Baume. (This type of hydrometer is now standardized and can be purchased from any of the chemical glass-ware houses.)

The table of densities given for this method is based on readings taken at 77° F., this rightly being considered an average room temperature. Do not forget though that the temperature in the majority of lithographic shops in summer months will average considerably above that. (These hydrometers, by the way, have a thermometer in the bulb so that one can see through the cylinder when the temperature gets to 77°.)

After determining the density of your solution, refer to the chart in the instructions giving the density readings of your solution from 5.1 to 7.5 degrees. Assuming that your reading is 5.6 degrees Baume, you then take, as the chart indicates, 22 1/8 oz. of the solution and add to it 5 ounces of a standard bichromate solution and enough water to bring the solution up to whatever you find is the best density for your purposes. It is recommended wisely that you start at forty ounces though you can drop down to 32, this being quite satisfactory on some types of whirler. You can also go as high as 48.

The bichromate formula reads 15 ounces of ammonium bichromate to 60 ounces of water. This solution can be made up in whatever quantity wanted because it does not deteriorate. As soon as the bichromate has dissolved completely, bring the total volume up to 75 ounces, thus giving a standard solution consisting of one ounce of bichromate to each 5 ounces of the solution. Since our albumen solution contained 3 ounces of albumen, to which we added 5 ounces of the bichromate solution which in turn contained 1 ounce of bichromate, we now have the ideal ratio of 3 parts of albumen to 1 part of bichromate.

With the foregoing solution properly made, you don't have to worry about what it will do on the plate; provided, of course, you observe the rest of the directions. The chief thing to figure out is the correct density of the albumen solution. Once you have determined that for your type of grain and your

whirler speed, the battle is largely won. If wise, you'll standardize your procedure right there.

If you do not use the standard albumen method, you should follow the above procedure, using your own proportions for the solution.

The following formula was given me by a well known lithographer:

*Solution A—Water 40 ounces; Albumen 8 ounces.

Solution B—Water 18 ounces; Ammonium Dichromate 1 3/4 ounces.

Filter solution A and allow to stand over night. Put solution B into A and mix. Add 3/4 ounce of ammonia to lighten and have the mixture read 25° on the hydrometer.

You can try this method, but my suggestion is to follow the technique given for the standard method, merely substituting amounts and hydrometer readings.

The method of coating recommended in the standard method is the one used by everybody who knows anything about coating albumen plates; namely, pouring the quantity of solution necessary for coating the plate into a beaker or whatever is to be used, then pouring this onto the plate through a piece of dampened cheese-cloth held firmly over the mouth of the vessel. This additional filtering effectively removes bubbles and foreign particles that may have gotten into the solution. The coating solution, by the way, should always be kept in a stoppered or closely-covered container to keep it free from dust and to prevent evaporation. This container should be washed thoroughly with warm water each time after use; then allowed to cool before the new albumen solution is poured in.

"Coating solutions containing no ammonia should be used only on the day of making. The addition of ammonia to the coating decreases the light sensitivity of the coating and makes a longer exposure necessary; therefore, ammonia should not be used except to be exposed on a photo-composing machine when 1 1/2 hours or more must elapse between coating and developing a plate."

From this can be seen the effect of ammonia on the albumen solution. If you don't add ammonia the plate must be developed within an hour and a

*If a heavier solution is required use 32 ounces of water. Hydrometer reading 30° to 32°.

half of the time of coating. If any of you are skeptical regarding that, try developing your plate after letting it stand more than an hour and a half. You'll find that you are up against one of the hardest jobs you ever picked. I know. I had to develop one the other day after eight hours had elapsed and I had an awful time. In case you must add ammonia to your albumen solution, the correct amount should first be determined by trial, then maintained just the same as were the amount of albumen and the amount of bichromate. I strongly recommend that only sufficient ammonia be added to bring the pH (degree of alkalinity or acidity) of the solution up to 7.6. This will be more fully explained in the next article. When using ammonia to prepare a stock solution, take 16 ounces of ammonia hydroxide, twenty-eight percent, and enough water to make 80 ounces. Now add this stock solution to your albumen solution until you get a pH value of 7.6. The amount required will approximate $2\frac{1}{2}$ ounces. The best procedure is to add almost $2\frac{1}{2}$ ounces, then take a pH reading, then add the balance drop by drop until the correct reading obtains.

We now come to the preparation of the plate for the press. The use of acetic acid as a counter-etch for both aluminum and zinc plates is recommended in this method. However, use the counter-etch that you have been accustomed to if, after making a couple of plates, you find that it works satisfactorily. After years of experience, I have come to the conclusion that you can safely use acetic acid on some plates but not on others, though I am not prepared to say why. The fact is I am not yet sure. Recently I found that by using 2 ounces of muriatic to a gallon on zinc, I got a pretty clean and a sufficiently sensitive plate. For aluminum plates I use 4 ounces of nitric to a gallon of water. I have had albumen images walk off aluminum plates when acetic acid and hydrofluoric acid were used. And I have yet to see this happen when nitric was used. It is because shop conditions vary considerably that it would be foolish for anyone to say that a certain counter-etch or a certain etch must be used.

One feature of this method commonly overlooked is letting the plate whirl for 10 minutes at room temperature after it has been coated and dried before making your print. It need not be kept in the whirler if you are pressed for time but it must be allowed to stand 10 minutes in the room in which you will expose it in order that the coating may come to equilibrium with the atmosphere. This is required

because practically all whirlers, both horizontal and vertical in type, use heating elements, as a result of which the temperature of the plate is raised considerably above that of the room in which it will be exposed. If exposed immediately, your results will not be the same as when the plate stands for 10 minutes. Accordingly, the safe thing is to let it come to equilibrium with the atmosphere before using it. Then when your test exposures for establishing your standards are made you will have something reliable to go by.

Length of exposure on albumen plates is inseparably related to the relative humidity of the room. (Disregard for the moment the density of the negative or the strength of the light since these become standard when once you have determined that your negatives are of a certain density and your light of a certain amperage.) Your variable in the albumen process is relative humidity and this therefore determines the correct exposure for your plate. Shops with atmospheric control do not have to regard that. They simply make one test plate to determine the correct exposure, then continue indefinitely using that exposure, because the relative humidity is controlled within five per cent. But as you know, the majority of the shops do not have such controlled conditions, consequently, the necessity of operating with different exposures.

To get your standard exposure, select an average negative, one that represents the general run of negatives produced in your shop—it should contain both line and halftone—then make a test exposure, being careful to get an accurate reading of the relative humidity at the time. It is suggested that a series of 5 exposures at the same humidity be made at about 89, 90, 100, 110 and 120 per cent of the exposure time previously used. Then develop the plate and select from the 5 exposures the one which most nearly represents the correct value. In this way, you can build a chart for your shop showing the correct exposures for each particular humidity on a 5 degree range basis.

Don't make the mistake of assuming that the exposure which is correct for one photo-composing machine will be correct for the machine next to it. Because of the variation in the strength of the lights that may or may not be true. Accordingly, it is always wise to make a chart for each machine, or if using just a vacuum printing-frame, to make a chart for that. By doing this you will eliminate the greatest obstacle to getting satisfactory albumen

plates. With the correct exposure, your image will be hard enough to stand extremely long runs yet not so hard that you cannot develop or clean the plate.

It was found upon extensive investigation that the correct exposure time at thirty per cent relative humidity was about $2\frac{1}{4}$ times the exposure time required to produce a print of the same quality from the same negative at sixty per cent relative humidity. From this you can see the importance of humidity in your shop when exposures have to be made. In some shops makeshift apparatus was put in for keeping the humidity more nearly uniform, e. g., so-called unit heaters with fans to dry up the air. Though it became extremely hot, we were able to hold the humidity at about fifty per cent or near normal, thus making it unnecessary for the young fellows who were running the machines to run out to look at a chart every time to find out what their exposure time should be.

To develop your plate, put it into a trough of lukewarm water—the temperature of your hand will usually be safe. (This trough should contain at least enough water to cover the plate completely at one time, otherwise you will get water spots (dry spots) that will be very hard to remove from the plate.) The image should immediately show through without rubbing but should not come clean. After a minute or so, you should be able with no great effort to develop the plate clean by rubbing it with a piece of cotton. If it develops too easily, i. e., by gentle application of the cotton, it has not been exposed long enough; if, on the other hand, you have to use a piece of flannel and rub hard, it was exposed too long. It should develop easily but not too easily. And that is the only way to put it. Some use ammonia in the trough of water. Others use bicarbonate of soda. I prefer the latter because ammonia, being a gas, doesn't stay in the solution. You think you are working with ammonia when as a matter of fact, you have to scrub the life out of the image to get results. When bicarbonate of soda is used, however, you get a dependable solution, one with a desirable pH value that it will maintain almost indefinitely. The solution should be slightly on the alkali side but not far enough to do any harm to the image.

If ammonia is used, you must use enough to act on the plate and that is too much for the image to stand. A beautiful sharp print will result, to be sure—in fact ammonia is ideal for making the image look sharp and snappy when it was printed a little

bit too full—but you should use something that can be controlled with the pH apparatus. The approximate amount of bicarbonate required is between $1\frac{1}{4}$ and $2\frac{1}{2}$ ounces to the gallon. The only correct way of developing your plate with any of these aids is to use the pH apparatus and keep the value between 8 and 8.5.

Before etching the albumen plate it is always a good policy to strengthen the image. I favor the rolling-up method. Others favor rubbing up. It doesn't matter a great deal so long as you get more ink on before you start etching. If you don't do this, you are sure to lose something. Protection is especially necessary if commercial etches such as lith-vilo or PW are used, due to the fact that these are radical etches. Standard procedure calls for either rolling or rubbing up, then dusting with rosin or talc. Let me warn you that if you use talc and want to wash the plate out afterwards, you may have a hard job because as soon as talc gets into that grease it becomes almost rock-like. The safe thing is to use rosin or, if you don't like that, use powdered asphaltum.

Every transferrer has his own pet way of etching a plate, the object being to desensitize the non-printing areas as much as possible. Allow the etch to act for 30 seconds to a minute, depending on your experience. You see, even here a definite statement cannot be made. Some etch a plate for a couple of minutes and get away with it. Others apply etch with a soft brush and almost immediately wash it off. And they also get good results.

The plate is then washed thoroughly with water for at least five minutes. Here is where many plate-makers fall down. They merely give the plate a sponging off, not even putting it under running water. I repeat the plate should be washed for at least five minutes to make sure that no acid remains on it.

The finishing operation consists of rolling up and etching again. If the plate is zinc, use an ounce of hydrochloric to a gallon of water, flow the etch over the plate, let it act for a short time, then flush it off thoroughly and it will be ready to finish for the press.

Now let me give you a procedure used in many photo-lithographic shops. Read it and try it. Then you will be able to submit questions to THE PHOTO-LITHOGRAPHER regarding plate troubles.

First operation (for plates with dulled or dirty looking finish)

Dissolve 1 oz. of potash to 2 qts. of water and thoroughly scrub plate with scrubbing brush, and wash off with water. Keep plate moist and use both etches described below.

Second operation—Counter Edge Plate

FORMULAS

Formula No. 1

Hydrochloric Acid	1 ounce
Water	1 gallon

(Purpose of this formula is to neutralize the potash wash. If no potash solution is used, Formula No. 1 above may be used as a counter etch exclusively.)

Formula No. 2

Hydrochloric Acid	1 ounce
Water	1 gallon
Ammonium Alum	4 ounces
Ammonium Bisulphate	1 ounce

For better quality work and long runs, both Formulas No. 1 and No. 2, the potash wash outlined above, should be used for all plates.

Third operation—Coating Plate

The formula (light sensitizer) should be prepared as follows:

<i>A*</i>	
Water	40 ounces exact
Albumen	8 ounces exact
<i>B</i>	
Water	18 ounces exact
Ammonium Bichromate	1¾ ounces exact

(Filter *A* and allow to stand overnight.)

Put solution *B* into *A* and mix. Add ¾ ounces of ammonia to lighten and test mixture with hydrometer to 25°.

Use 1¾ to 2 oz. of above formula (*without bubbles*) and pour on plate in following manner: keep plate wet with water. Pour water on plate at 60 revolutions, then pour half of measure of the coating on plate and follow with balance of solution. Reduce revolution to 40 and revolve until dry. Use heating unit and fan of the whirler.

Fourth operation—Image on Plate

Immediately upon removal of plate from whirler and positioning in vacuum frame, the image should be exposed for approximately two minutes.

Fifth operation

Plate taken out of vacuum frame and rubbed up

* If heavier solution is required use 32 oz. water. Hydrometer to 30° to 32°.

with developing ink. (Use clean rag with circular motion.) Cover *evenly* and thoroughly entire plate. Fan dry. Put plate in trough and wash with water entire plate, using cotton to wipe off the developing ink. This will leave the image exposed on plate. *Keep plate wet continuously.* Then wash entire plate with solution of sodium bicarbonate (1 oz. of soda to 32 oz. of water) to help remove any particles of developing ink or other foreign substances. Continue to flush plate thoroughly with water and *fan dry quickly and then immediately bake plate two minutes at this point.*

Sixth operation—Etching

Preparation of etch for this operation is as follows:

<i>A</i>	
Gum (40° on hydrometer)	18 ounces
Water	10 ounces

Mix thoroughly (should show about 30° on hydrometer).

Then pour 1½ oz. ammonium bichromate into *A*—*mix thoroughly.* After the above mixture is completed add 1 oz. of phosphoric acid into 2 oz. of water and mix into above solution.

The formula above for etching should be applied with a brush and this solution should *thoroughly cover the entire plate* and etch for approximately two minutes. When etch shows bubbles which indicates the completion of etch, plate should be washed off thoroughly with water and *semi-dried.* This will help spread gum easily and evenly over plate.

Seventh operation

Gum up moist plate with sponge evenly. Then take clean rag rolled up into ball and rub gum down smoothly and evenly over plate, using *circular motion*, and then fan dry. (Gum to be used about 45° to 50°).

IMPORTANT NOTE

When using coating solution in whirler there must be *no bubbles* showing in the solution.

Whenever using acids, take some of the allowance of the water of the respective formula to be used and mix the acid in this water. Then pour the contents into the solution as per the formula.

In order to test accuracy of hydrometer, the proper scale should show 0° when put in test tube of water.

Q. Is the albumen dissolved in distilled water?

A. In cold tap water.

Q. When do you put the Dubar on?

A. After etching and gumming up.

I am reminded of an interesting experience I had today. Some old plates that had been damaged the last time they were run were sent to the pressroom and treated in the usual way. In a short time, they started to go bad so the foreman, a new one, sent first for chromic acid, then for some zinc nitrate. To make a long story short, within two hours he put into the fountain practically every type of chemical with the result that an order was given this evening for a new plate. Now the plate in question was old but by no means spoiled when it went to press this morning. The trouble was due, in my opinion, to the pressman not knowing shop regulations and therefore resorting to experiment which, as is so often true, got him in deeper and deeper.

Q. Couldn't that same thing have happened with the small plate you just showed us?

A. Yes, with any plate that had not been properly protected. But, as you know, whenever a plate that is likely to be run again is taken off a press, it is washed out thoroughly and put under asphaltum.

Q. But the pressman you refer to doubtless knew his business. I can't believe that he would actually spoil the plate.

A. I don't know any way to prove to you that such things happen day in and day out, not only in the shop referred to, but in others. But the fact is they do. And please don't conclude from what I say that I am against pressmen, for I am not. I merely cite cases I run across in the various shops to illustrate my point. There are so many things that must be taken into consideration by pressmen that I sometimes wonder that they do as well as they do, especially when their employers do not provide them with such controls as are available. In succeeding articles, I shall try to show you how to preserve your plates when you send them to the pressman; also if you happen to be a pressman, why the plate acts as it does and what to do with it. Though I am reluctant to blame pressmen unduly, I know and you know that they make plenty of mistakes, sometimes because of ignorance and other times because of carelessness. That's true of all of us.

Let me cite a case in point. Only a few weeks ago, the superintendent called me to the pressroom and asked what was wrong with a press-plate that was

beginning to polish. While I was talking to the superintendent, I overheard the foreman ask the pressman if he had taken that packing out from under the blanket. The pressman said that he hadn't and lifted his blanket. It developed that he had .008 over pressure. That pressman had been running that press for months and must have known what he had under his blanket. Of course, he didn't deliberately destroy that plate. He forgot to remove the packing just because he failed to check up fully before beginning his run.

Q. Perhaps he didn't have time to check.

A. That might have been the case. I can't say one way or the other. I can say though that the pressman's difficulties were due to his failure to check thoroughly before he began his run. In the particular shop I have in mind the management does not consider three to four hours too long for the makeready. So the case for the pressman in question is none too strong.

Q. Does that make-ready apply to reverse plates only, or to all plates?

A. To all plates.

Q. Four hours or more are sometimes required for make-ready on reverse plates. In such cases the pressman might not be at fault.

A. I run into all kinds of odd situations in shops. Usually the one I meet first after the executive turns me loose is the transfer foreman or the press foreman. All too often I must listen to reports of sabotage going on; or possibly to a charge that the transferrer doesn't know his business, etc., etc. Then later I may be told by the transferrer that the pressman is nothing but a shoe salesman. And so it goes.

Q. When albumen plates are developed, spots sometimes appear. What causes these spots?

A. Frankly, I don't know. I know that some types of spots are due to holes in your negatives. The ones you have in mind might be due to dross in the metal plates. In case the metal contains dross, the result does not show up until the plate is put under developing ink. Another type of spots is due to alkali. In such cases, some of the alkali used in the grain-ing operations was not removed by counter-etching.

WINDOW DISPLAY--THE CLINCHER MEDIUM

By N. J. LEIGH

President, Einson-Freeman Co., Inc.

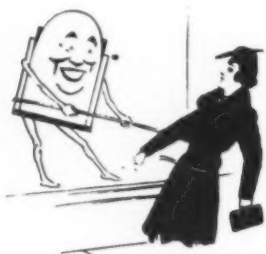


N. J. LEIGH

THINK, for a minute, of the millions of people in this country who are half sold on a product. Your product—any product. Why “half sold”?

Because they have read in magazines or heard over the radio of its merits and been impressed by the logic of the copy but somehow the impressions never crystalized in a sale. And for a simple reason.

Does the Idea Have a Hook that Will Draw 'em In?



This does not mean a special merchandise offer such as a free deal but a basic appeal that selects prospects from among the passersby.

No window or store display ever repeated those arguments in a compelling and dramatic form; which repetition would have resulted in a sale created largely by advertising in other media.

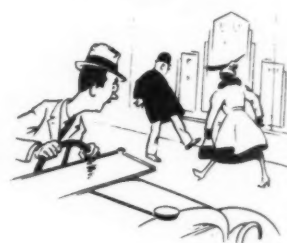
That is the unique quality of window display. It is the clincher medium—the one that focuses the effect of all other advertising at the retail store where it can readily result in a sale.

Wrigleys are so sold on window display that they use this means to sell its value to the trade. Turner Jones, of Coca Cola, has said their carefully considered opinion is that window display is an essential medium; the first one on the budget and the last they would ever eliminate. The Association of National Advertisers is now conducting a \$50,000 survey to establish window-display circulation fig-

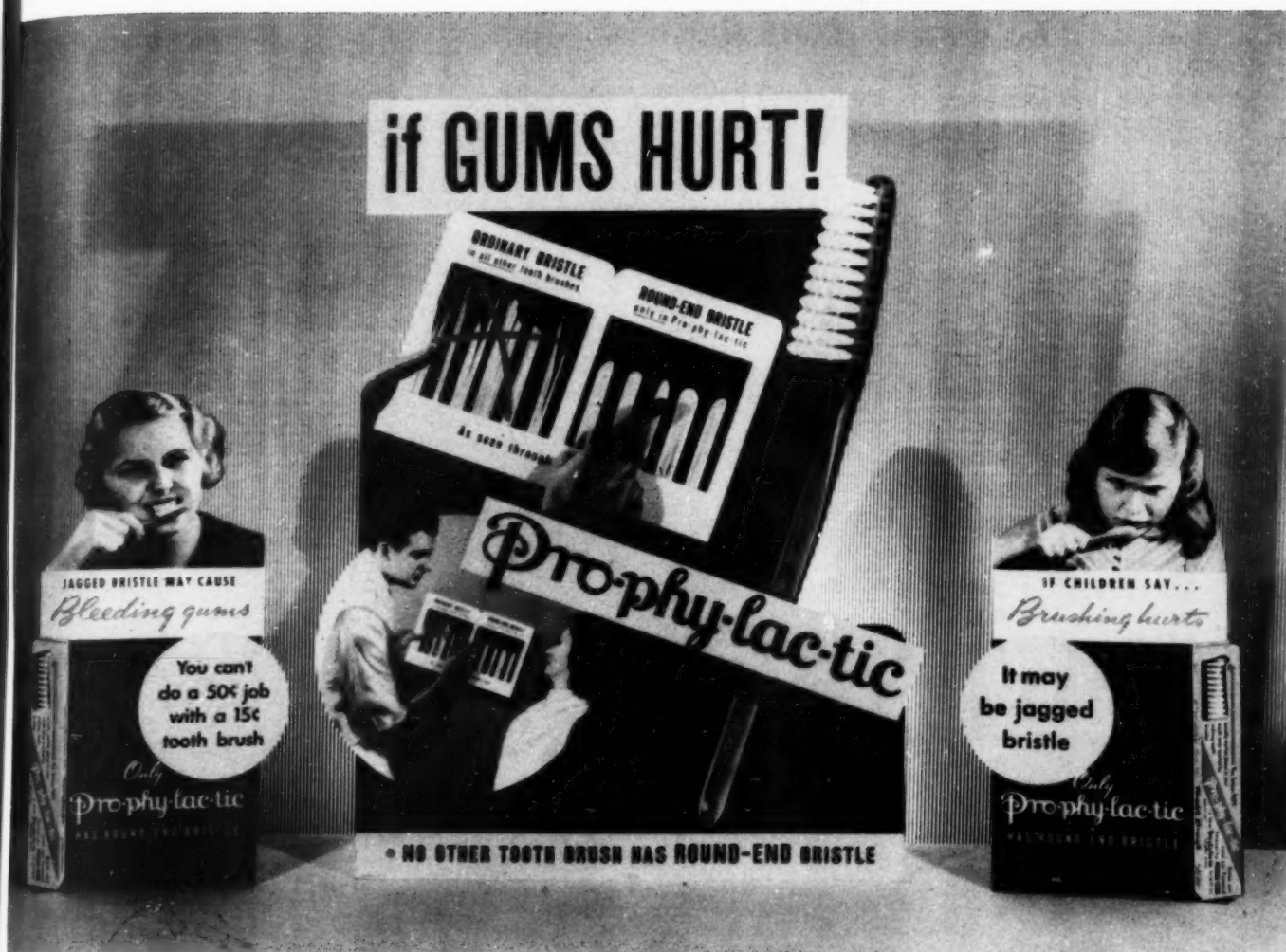
ures in order to make possible a comparison of the cost of this medium with radio and billboards to reach masses of people.

Now the use of window display employs a unique technique radically different from that of any other medium. **First**, because it is the 70 percent elective medium; 70 percent elective because it depends on the choice or decision of the retailer for its use.

Is the Display Simple in Design—and Fast?



Will people who cannot read the language know what the display is selling? Do the added niceties of design detract from the idea?



Here is a good example of a three-dimensional display, as well as showing the product in giant form.

Until and unless he agrees that the display should be shown in his window the advertiser's investment is a sheer waste.

Again, we refer to window display as the 70 percent elective medium because as nearly as we can estimate about 30 percent of the displays are installed on a paid basis by professional installation companies. The average cost of a display is usually about \$1 and the cost of installation averaged on a national basis is about \$2, making the cost of a window installed, good for at least a week's showing, at \$3 delivered.

This approximation of 30 percent of the money spent is clearly *not* spent in an elective medium. The ad-

vertiser does not pay until he sees a receipt signed by the dealer and it is therefore as checkable as any net paid circulation.

Now the bulk of the money, 70 percent, which is definitely elective, depends for its success on the ingenuity and strategy employed in planning and designing the displays. More than any other, the use of this medium is empirical; you learn by actually doing, the successful technique is developed largely by trial and error.

Perhaps the most outstanding characteristic of window display is that it is the only medium that can take advantage of the elements of substance, form, color, light and motion. Let's consider them individually.

1. SUBSTANCE

The actual package is three dimensional. In window display the reproduction or giant illusion can

Is it Easily Set up and Sturdily Built?



Call in your office porter. Ask him to open up the package and set up the display. Then try an elevator runner in his half hour off. If they can do it, you are safe.

have that same quality. The printed page is two dimensional, has length and height. The window display can also occupy space from front to rear, making a third di-

Is the Art Technique the Best to Convey the Idea?



Some advertisers produce mediocre displays because they start with a piece of artwork instead of an idea.

mension. Example: The Pro-phylactic display.

2. FORM

A booklet page can have only one outline; the rectangle—because it is limited by printing and binding requirements. The window display can have any form that steel-rule cutting-dies are made to give it. Example: National Distillers Christmas display. This has form of man, form of tree, and form of table to hold actual bottles. Any merchandise that the dealer desires can thus be displayed.

3. COLOR

This does not mean color in the limited sense of the range of colors in all illustration, but color in the

elements that are used to make up displays. This includes the dramatic use of color in decorative materials. For example, metallic foil is a color vehicle. The Coty Air-spun display directs radiance from box to woman.

4. LIGHT

This element creates its own opportunities. Consider the wide range of flasher displays. The Sylvania flasher is a good example.

5. MOTION

Most recently developed opportunity for advertiser. It is a deceitful factor fraught with difficulties. Excellent as a dealer premium because the eagerness for re-



This display permits the showing of the actual bottles on the table, plus the additional eye-attractive background, flanked on either side by the easel-supported Christmas cards.



This display shows a dramatic use of color, directing radiance from the product to the user, plus two actual examples of the product.

tailers to get motion exceeds willingness of advertisers to pay for suitable displays. The Sergeant dog-medicine display is typical of displays of this kind.

These are the opportunities that window display affords. The next time you plan a display remember all five and try to employ as many as you can.

As a final suggestion, may I leave with you a brief summary of six dangers or pitfalls that have prevented advertisers from achieving the best results from this medium. They may be avoided by the obvious recourse to organized thinking and applied common sense.

1. Does the idea have a hook that will draw 'em in?

2. Is the display simple in design—and fast?

3. Is it easily set up and sturdily built?

4. Is the art technique the best to convey the idea?

5. Are the name plate and copy well placed?

6. Is it equally adapted for open back or closed back windows?

GOT A KICK *about your* RADIO

- *it may be* A CORRODED ANTENNA
- *it may be* A SHORT CIRCUIT
- *it may be* A BAD CONDENSER



Let us test your tubes
..HERE OR
AT HOME

BUT...

10^{TO} 1
it's
TUBES

SYLVANIA TUBES

Here is another fine example of a flasher display—one that demands attention from every passerby.



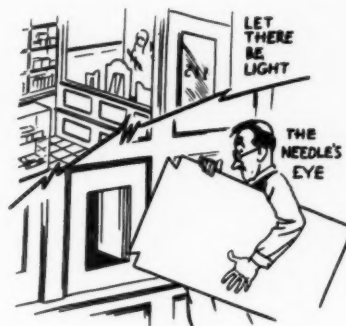
It can be truthfully said that this display of a scratching dog has universal appeal. And supplemented by actual displays of the actual product, make it the most effective of all advertising mediums.

Are the Name Plate and Copy Well Placed?



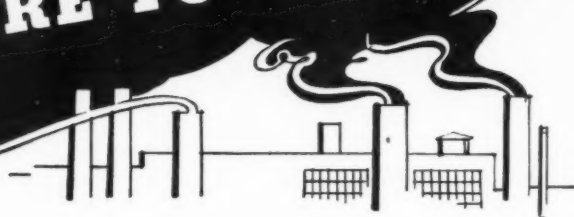
If it is too high, it is above the normal range of vision and therefore not seen. If it is too low, it is usually hidden by merchandise and dummy cartons in the foreground of the window.

Is it Equally Adapted for Open Back or Closed Back Windows?



Have both types of windows in mind when you plan the display because they are divided about fifty-fifty in stores.

WHEREVER YOU FIND
**BIG
 BUSINESS**
 YOU ARE SURE TO FIND



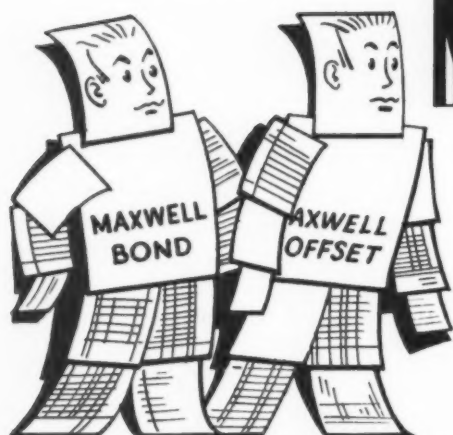
MAXWELL BOND

WATERMARKED



MAXWELL OFFSET

TUB-SIZED



MAXWELL OFFSET for ADVERTISING
 MAXWELL BOND for FORMS

The Maxwell Twins are popular with large users of printing for four specific reasons: (1) reduced running time, (2) unusual strength and folding qualities, (3) uniformity in excellence of printing surface, purity of color, absence of lint and fuzz, (4) modest price.

Go after BIG BUSINESS with papers that meet Big Business standards—Maxwell Bond, Maxwell Offset.

THE MAXWELL PAPER CO., Franklin, Ohio

Sales for 1936 on Maxwell Bond and Maxwell Offset broke all records

M A X W E L L I S M A D E W E L L



MAXWELL BOND Envelopes, *greatly improved*, NEW WATERMARK, now made under our own management by our affiliated subsidiary DAYTON ENVELOPE COMPANY, DAYTON, OHIO

"NEAT BUT NOT GOUDY*"

AN APPRECIATION
OF

Frederic W. Goudy
fwg



WHEN Mr. Goudy was asked to supply some material for an appreciation of his accomplishments, his reply was characteristic of the man. In that shy, school-boy way he has, and which has so endeared him to all his friends, he suggested that little or nothing be said about himself, but that the emphasis be on the many type-faces he has designed and on his attempt to gain a higher esteem for typography and type design.

To write such an essay would be an easy—and thankless—task. It would be necessary only to show specimens of a number of his better-known designs, tell something about when and how they were conceived, point out the sort of work for which each is best adapted, and call attention to any peculiarities in the shapes of the individual letters which give them distinction. Such a cold-blooded treatment might be of interest to students of types and typography, but would be boring indeed to that larger audience who want to know something about the man who has conceived and designed over a hundred variations of the alphabet, each unlike the other ninety-nine, and all conforming to the strictest canons of legibility and good taste. A person who had never met Mr. Goudy could perhaps write such an essay, but not one who has known him intimately for over a quarter of a century, and who has had the opportunity to watch the growth and ripening of a personality that today makes him one of the best beloved figures

in the entire field of the graphic arts. While a superb craftsman, master of a most difficult art, and one in which he excels all others since Gutenberg invented movable types nearly five centuries ago, those who know him best, and his friends include everybody who has ever met him more than once, agree that his character as a man more and more overshadows his achievements as an artist.

Briefly, here are some of the high lights in the career of a remarkable craftsman:

Frederic William Goudy, son of a superintendent of schools, was born in Bloomington, Illinois, on March 8, 1865. (This city has a minor place in American history because here once lived three friends who conceived the idea that Abraham Lincoln should be President. It was largely due to the efforts of these men—Jesse W. Fell, David Davis, Leonard Swett—that Lincoln obtained the nomination, and they also had a part in his election. Goudy says that as a boy he knew Jesse Fell, and David Davis was to him a familiar figure, as he lived but a few blocks from Senator Davis' estate.)

Some of Goudy's youthful years were spent in Shelbyville, another Illinois town to which his family had removed. There one of his early occupations was that of occasional helper to a paperhanger. As Goudy relates it, one spring, after he and his employer had cleaned and repapered and repainted the Presbyterian Sabbath School room, Fred decided to improve on perfection, as has always been his wont. He therefore added to the walls of the room many Bible texts, using letters cut from wall-paper, over 3,000, and embellishing them with decorative initials redrawn from examples he found in a Bruce type-specimen book.

It was not long after this episode that young Goudy departed from Shelbyville, his father having been appointed probate judge in the then scanty-populated Territory of Dakota. The salary of a judge was also scanty, so the elder Goudy eked it out by scanty returns from a real-estate business, Fred meanwhile putting his shoulder to the

*The ideal barber is one who allows you to read a book while you are having your hair cut. At Nick's on Vesey Street this is amiably permitted, and during a tonsure we were able to digest Temple Scott's little essay on Goudy, the famous type-designer. Mr. Scott says that no other designer in all the annals of the printing craft has been so fecund. "When Jenson or Garamond or Caslon or Baskerville can be credited with one or two or three types, Goudy must be credited with dozens." When we think about the generous rivalry between Goudy and others of his craft, we say of the other type faces, "They're neat, but not Goudy."—CHRISTOPHER MORLEY in the *New York Evening Post*, Nov. 30, 1923.

wheel by acting as bookkeeper and clerk. The Territory of Dakota at that time did not offer a bright future to an ambitious youth, so, after five or six years on the wind-swept prairies, Fred struck out for himself. Now came a considerable period while he followed the occupation of clerk or bookkeeper in various towns and cities in the Middle West.

By 1890, Fred was located in Chicago, and here, in partnership with C. Lauron Hooper, he embarked in the printing business, and in a very modest way, establishing what he termed The Booklet Press, later named The Camelot Press at 296 Dearborn Street. The purpose was to print fine booklets.

One of the first commissions obtained by the new firm was the production of the *Chap-Book*, a brilliant publication launched by two brilliant young men, Stone and Kimball, then Harvard students, both of whom were later to achieve considerable fame. Mr. Goudy recalls that when he informed his foreman (also type-setter, pressman, office-boy) that they were to print a fortnightly magazine, he exclaimed "My God! what with!—two leads and a quad?"

It is evident that Goudy now and then acted as pressman, for he says that the *Chap-Book* contained the first (and only) halftone he, personally, ever printed.

The second volume of *Chap-Book* was printed by Goudy, it later going to the Lakeside Press. It ran for more than ten years. The Camelot Press had a short life, and far from a merry one, folding its hands and passing on shortly with the aid of the sheriff, altho Goudy had sold his interest prior to that event. Its name, however, is perpetuated in a type-face used now and then today and known as Camelot Old Style. This was Goudy's first venture into the field of type design, and he drew the capital letters in 1896. The drawings were sent to the old Dickenson Type Foundry, in Boston, accompanied by a note saying that he thought they were worth five dollars. Probably Goudy's first attack of heart disease came when, in reply, he received a check for ten dollars.

A "busted" master printer, Goudy was now compelled to return, as one biographer has expressed it, "to a final wrestle with his ledgers." Perhaps it was contrition for the shoddy manner she had always treated him that caused Dame Fortune to now hand Goudy the best piece of good luck ever given him—Bertha M. Spinks, born in Jersey City, N. J., in 1869. Fred married this young lady in Berwyn, Ill., in 1897, and for nearly forty years, until her death in 1935, she was a helpmate in every sense of the word. Always his inspiration, Mr. Goudy has named his hundredth type-face the "Bertham," and in its dedication he says:

"The type, drawn in humility, is dedicated to the memory of my beloved helpmate, Bertha M. Goudy. She encouraged me when my own courage faltered; uncom-



PHOTO BY EARL H. EMMONS

Bertha M. Goudy working on her largest job of composition, the "Frankenstein" for the Limited Editions Club, 300 pages hand-set in Goudy Goethe.

plaining she endured the privations and vicissitudes of our early companionship; her intelligent and ready counsel I welcomed and valued; her consummate craftsmanship made possible many difficult undertakings; she ever sought to minimize any exploitation of her own great attainments, that the acclaim which rightfully was hers should come, instead, to me. For two score years, in every way, she unselfishly aided me in my work in the fields of type design and typography and enabled me to secure a measure of success which alone I could not have attained."

This is not the place to dwell on Bertha Goudy's contributions to good typography, and to the making of fine books, both of which it is hoped to cover adequately in a future essay.

With the responsibilities of a married man now on his shoulders, Goudy labored long over the ledgers he loathed, eventually becoming cashier of the *Michigan Farmer*, an agricultural journal of some importance. But always, in his moments of leisure, his mind turned back to that ten dollars paid him for drawing an alphabet, a task that had given him the keenest pleasure. Just as the



PHOTO BY EARL H. EMMONS

Fred's facile fingers cut a master pattern which will later be used to cut a matrix.

first draught of red liquor seals the fate of the dipsomaniac, so did that type-founder's check irrevocably commit Goudy to the designing of printing types. Therefore, when the Michigan job came to an end, as most jobs do, he returned to Chicago, having meanwhile resolved never again to be a bookkeeper. "Better for his soul than security and a regular pay-check" was the opportunity to exercise that creative talent he now knew he possessed.

Of course he will deny it, but even in those days Goudy had some ability as a salesman. It was not long before he was doing book-covers and initial letters for a large publishing firm, A. C. McClury & Company, and advertising layouts and lettering for some of the stores on State Street. And in his leisure hours he continued his experiments with new forms of the alphabet. At last he hit upon a design that the compiler of these notes is prejudiced enough to believe is one of the handsomest types Goudy has ever conceived. A clothing manufacturer decided to have a type for its exclusive use and commissioned drawings from Goudy. The plan was abandoned because of cost of matrix cutting and the drawings returned.

Goudy now arranged to have the new design cut and cast in type metal, and with a partner, Will H. Ransom, and three hundred dollars, established in a suburb of Chicago, Park Ridge, in August, 1903, what has since been known as The Village Press. As Ransom recalls it, whose connection with the Press was for but a brief period, the equipment was placed in an old barn back of the house where the Goudys lived. There was a hundred odd pounds of the new type in a single size, 16 point, and which was named the "Village." There was also an engraver's proof-press, operated by hand, and a scanty supply of other equipment. The first item of importance produced was 231 copies of a 28-page book, an essay on printing by William Morris. An almost faultless piece of

printing, it established the reputation of the Village Press among the then few typographic connoisseurs in this country.

The Goudys, and the shirt-tail full of type that constituted the Village Press, did not long remain in Park Ridge. For some unknown reason they chose to remove to Hingham, an ancient village near Boston. Meanwhile, Bertha Goudy had mastered the craft of type composition, and during the next two years nine books were produced, all set by Mrs. Goudy in the Village type and printed by Fred on the hand-press. Mrs. Goudy also had a hand in the binding of these books. A charming one is the "Massachusetts," a page of which is here reproduced. Another book, "The Hollow Land," printed at Hingham, gained for the Goudys a bronze medal at the St. Louis Exposition.

Apparently, two years in the rarefied intellectual atmosphere of Boston was enough for the Goudys, and in March, 1906, they removed themselves, their household goods, and the printing equipment to New York. The Village Press, so far, had been far from a profitable venture, and it survived only because Goudy was able to earn a small and uncertain income as a free-lance designer. Fortunately, he was *now and then* blessed by the sale of a design for a type-face. But for several years the Goudy family, a son now being numbered among those to be supported, had a difficult time. Goudy has reason to remember an incident that happened in 1907. He found himself without a penny, so he robbed the metal savings bank of his young son of ten cents, to be used as



PHOTO BY EARL H. EMMONS

Cutting the matrix, a task that requires a high degree of skill, and a craft Mr. Goudy mastered without instruction.

carfare for Bertha and himself to their office in the Parker building on 19th Street. They remained there during the day, without luncheon. As evening approached and they contemplated the long walk of over one hundred blocks to their home, and what to use for food when they got there, they were agreeably surprised when a customer entered and purchased for fifteen dollars, cash, a copy of an edition of Bliss Carman the Goudys had printed.

In 1908 the Goudys met with a serious misfortune, fire destroyed the Parker building, and all the equipment of the Village Press, including work in process. The Village Press went into a coma for a while. Goudy obtained desk-room in an advertising agency and devoted his entire time to designing. It was about this time that, among other type-faces, he designed and sold to the Monotype Company the one known as the No. 38E, the matrices of which had a considerable sale. This was the first of the Goudy designs used for machine composition, of which he knew little or nothing, and for that reason the result was not entirely satisfactory—to Goudy's meticulous eye.

Anxious to learn at first hand what was being done in Europe in the typographic field, Goudy went abroad in 1909, returning a few weeks later with many new ideas for type-faces. This was the first of his many journeys to Europe.

Meanwhile, he had made the acquaintance of Mitchell Kennerley, who had recently started business as a book publisher. Goudy said he would like to design a new book-face, as well as a font of capitals to be used for chapter headings for a volume of short stories Kennerley was to publish. The result was two designs that are, in many respects, the best type-faces Goudy ever made. Many consider the Forum the finest rendering that has ever been made of Roman capitals. The Kennerley was another triumph and for years was one of the most popular type-faces on the market. It is now somewhat out of fashion as a foundry type but remains as beautiful and as legible as ever and as presented by one of the slug machines enjoys a considerable sale (without profit to Goudy).

The Goudys re-established The Village Press in 1910 and book after book, all, or nearly all, composed by Bertha Goudy, followed in rapid succession. The press-work on many of these books was beyond the capacity of the Goudy hand-press, hence a number were printed by Norman T. E. Munder, William E. Rudge, and others. Perhaps the most distinguished of the books produced during this period was "The Door in the Wall," now a prize item among collectors of Goudyana.

Goudy now set himself up as an author, writing and designing two books, for which Mrs. Goudy set the type. One, the "Elements of Lettering," was printed by the Marchbanks Press and the other, "The Alphabet," by Mr. Rudge. Several editions of both have since been



PHOTO BY W. GERALD HUGHES

Goudy checks the details of a book before the pages are locked in a chase.

printed and they are considered standard authorities. He has also written a number of other books dealing with lettering and fine printing, a recent one, published by Oxford University Press in 1936, "The Trajan Capitals," is a worth-while contribution to the classic forms of the alphabet.

Mr. Goudy's reputation as a type-designer eventually spread over Europe and by 1916 he had sold eight new faces to the Caslon Foundry in London, and a number to the English Monotype Corporation since that date.

The American Type Founders Company, of which the old Dickenson Foundry was now a part, had also purchased a number of Goudy's designs. They now bought outright, for \$1,500, the drawings of the Goudy Old Style, which had a tremendous sale. From this basic design they evolved several more type-faces—Goudy Catalogue, Goudy Bold, Goudy Handtooled, etc.

Recognizing Goudy's expert knowledge of type designing, and the influence of his reputation throughout the world, the Lanston Monotype Company appointed him art director in 1920, a position he still retains. The first result of this connection was the Monotype Garamont, a faithful rendering of a sixteenth-century type-face that has had a great sale and today retains all its popularity.

It was about 1913 that the Goudys located in Forest Hills Gardens, then a thinly populated New York

Rapid Plate-Coating



QUICK ..
strong and sturdy

The quality of your press-plate actually begins with the whirler or plate-coating machine.

The evenness and dependability of your coating depend just as much on the whirler as on your care in compounding your formula. Consistency . . . perfect control of speeds . . . drying facilities—all must be dependable and certain.

The Wesel Whirler has direct-connected, geared-head motor drive; no friction drive. Variable speed regulator is electrically controlled. Ball-bearing construction, using a minimum of current.

Automatic air-circulating device that does not attract dust from outside—Rustless alloy steel drum (not tin). Aluminum alloy revolving table—

Convenient drain pipe connections for ease in installation. Washing spray and also perforated pipe for cleaning housing. All pipes of solid copper.

Genuine Chromalox drying system, assuring rapid and consistent preparation at minimum cost; pilot light signal.

Adjustable legs for uneven floors to assure a level position. All controls available from one position. Lid can be raised or lowered instantly and without effort.

Can be seen in our Chicago and New York Display Rooms.

WESEL MANUFACTURING COMPANY

Factory: SCRANTON, PENNSYLVANIA

NEW YORK: 468 4th Ave. • CHICAGO: 201 N. Wells Bldg • SAN FRANCISCO: 431 Clay St.

PHOTO-COMPOSING

- Write us for information on the new Photo-Composing Machines. The entire machine is built into one integral unit: All electrical equipment, lighting system, and mechanism combined within a single machine, thus simplifying operation, control, and maintenance.
- Can be installed in a fraction of the time required by former machines.
- The outstanding feature is simplicity of operation. Control of this machine is easily learned and mastered. Made in four standard sizes.
- We manufacture a complete line of offset plate-making equipment in all standard sizes, both large and small. Write for details on cameras, vacuum printing equipment, plate-coating machines, optical and lighting equipment.



WESEL



FROM A WOODCUT BY CHARLES W. SMITH

A textile mill a century and more ago, this ancient structure now houses The Village Press and Letter Foundry.

suburb. Ten years later, with the surroundings almost as crowded as New York City, the place was disposed of, and at Marlborough-on-Hudson, seventy miles north of New York, was purchased a fine old historic estate. The house, built many years ago, is Colonial in design. There are several other buildings on the place, which is bounded on two sides by a deep ravine. Opposite the house is an old mill (1790), now the workshop. The many acres of grounds, with beautiful old trees and perennial gardens, make a fitting setting for one who appreciates more than most men the natural beauties of this world. The place has been named "Deepdene"; the "dene" being very deep, and through it flows a brook on its way to the Hudson. When one sits quietly on a restful seat under an immense spreading tree, there may be heard the water of the brook as it plunges over many small waterfalls. One of the most beautiful of the Goudy type-faces has been named "Deepdene."

In the old mill Goudy cuts the patterns and the matrices of the types he designs. And here, with the assistance of his son, Frederic T., the type is cast. It seems remarkable that not until after he had passed sixty did Goudy decide to teach himself three new handcrafts—cutting type-face patterns and matrices, and casting type.

That he should have so thoroughly mastered these three crafts when many men begin to think of retiring proves he was born with that spirit of eternal youth which today bubbles forth from him just as enthusiastically as it did a half century ago.

To any one who understands and appreciates what it means to operate machines, with which one must combine beauty with exactness to .0002 of an inch, it is a pleasure to watch Goudy operate one of his matrix-cutting devices—machines built for other purposes but which he has altered to suit his exacting requirements.

No attempt will be made here to enumerate the hundred odd type designs which have flowed so readily from Goudy's magic fingers. Today, his skill is greater than it ever was and the hasty sketches of letters he often makes to illustrate a technical point are all worth preserving because of the beautiful freehand curves they display, as well as the correct balance of light and heavy strokes.

But enough has been said about Goudy as a type-designer. Much more could, and should, be said about Goudy as a potent influence that has done so much, as one man has expressed it, "To make all branches of the Graphic Arts respected by those who use its products."

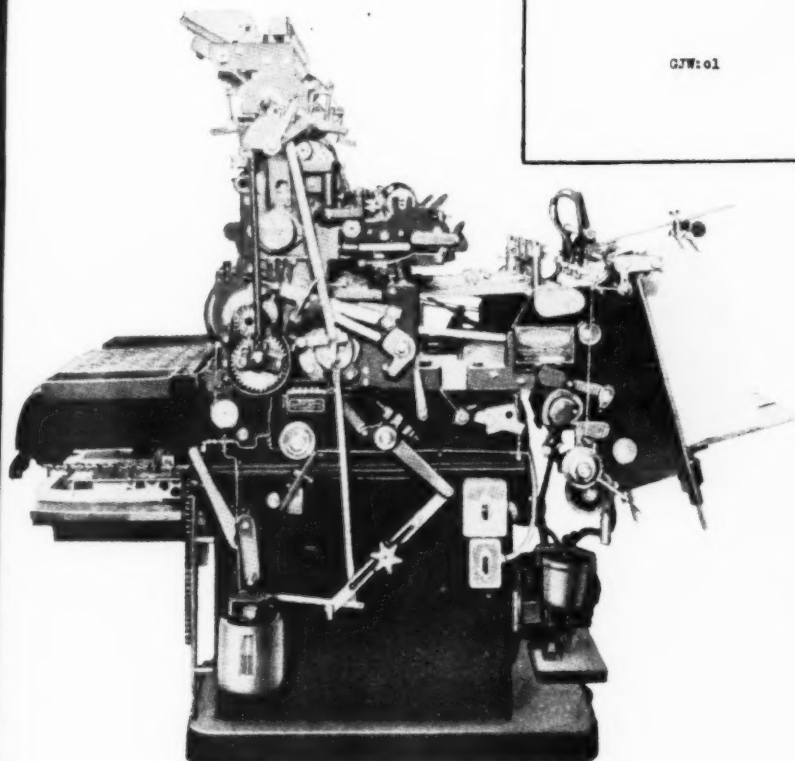
He is in great demand as a speaker before all sorts of organizations. His modesty, artistic integrity, and the optimistic attitude reflected in all that he writes, does, and says, has made him a distinguished figure that deserves all the honors he has received.

LEWIS C. GANDY

MASSACHUSETTS

YOUR Royal Highness: The nation's guests—Boston's this evening—have just had some momentary glimpses of the extemporized American cities, of the prairies and the Alleghanies, of some great rivers and lakes, and of prodigious Niagara, & so they have perhaps some vision of the large scale of our country, although they have run over not more than one-thirtieth of its area; but now they have come to little Massachusetts, lying on the extreme eastern seacoast—

Reproduction of a page from a charming little book printed by the Goudys at Hingham in 1905. The type is the original "Village," no longer in existence, all the type, as well as the matrices, having been destroyed by fire in 1908.



Buy on
FACTS
NOT
CLAIMS

EASIER CONTROL—SIMPLER OPERATION—SPEEDIER PRODUCTION

American made by

WEBENDORFER-WILLS CO., Inc.

Builders of Printing Machinery for Over Thirty Years

MOUNT VERNON, NEW YORK, U. S. A.

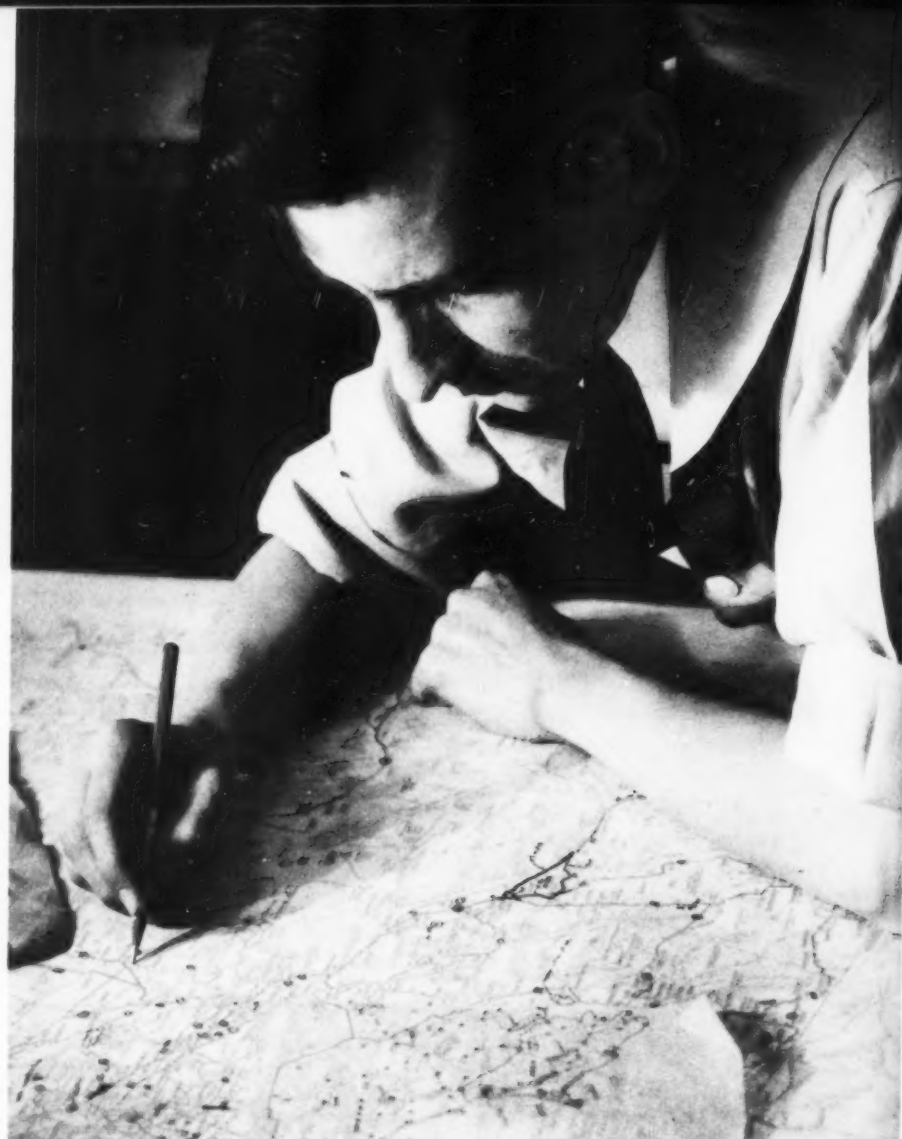
MAPS

THE millions of road maps demanded and used each year by America's motorized millions indicate in a practical way a whole nation's utter dependence on an advertising service for which large oil companies spend huge sums each year. No one will ever be able to compute the good will the advertisers have won as a result of this service to consumers. But nobody can help admitting the incalculable value of the advertising map as a merchandising medium.

So familiar a sight is the road map to the average advertising man that he is inclined to give little thought to the preparation that went into its making, the production problems that were faced in its transition from a draftsman's sketch to a motorist's guide. Indeed, the complexity of the job might well be translated by the advertising man into a truism that no worthwhile merchandising idea can simply be tossed into the works and automatically click with consumers.

Making a new road map is a formidable undertaking, but keeping a map up to date, year after year is a task almost as difficult. The 1936 Socony-Vacuum map of New York State, for example, differs from the 1935 map of the same State in nearly 1,000 particulars. Work has already begun on the 1937 map—and this will include as many more changes. Whether a map is new or a revision, however, the map maker can never get very far away from the "master map" upon which the map is based.

In the case of the New York State map, the master map is a set of nine volumes in which 500 sectional maps of the State, prepared by the United States Geological Survey, are bound. Joined, the maps would make a giant map nearly 27 feet square. These maps are most expertly and accurately made so far as natural features of the State are concerned. The map makers who made them, however, were not interested in comparisons



between highways—and some of these maps were made more than 30 years ago. The accuracy with which natural features are presented make them ideal work sheets upon which to add the results of extensive research—mostly about highways.

Information about state highways comes from the engineers in charge of the state's nine highway districts. County engineers provide information concerning county highways and more information is obtained from township officials. This information, together with the location of such points of interest as state parks, airports, and other detail, is carefully added to the master map. All this is what may be called "official information."

What makes a road map of real service depends upon what the map maker does

Before the road map is released for reproduction, trained men carefully check every detail, as shown above. Numerous changes are essential every year.

to interpret the official detail. This is the work of a dozen specialists in map making who combine enthusiasm for motor touring—and thus, an appreciation of the tourist's view-point—with keen editorial judgment. Last year General Drafting Company's staff motored about three hundred thousand miles, studying highways and routes. It is their judgment which decides whether a road is to be listed as first, second or third class and whether it is to appear in red or dark blue. They decide, too, whether a road is to appear on the map or not—for a good road map does not include every

THE WORLD

Here in America!

"YOU CAN SEE ALL THE WORLD RIGHT HERE IN AMERICA"

That's Greyhound Bus Lines' advice to the traveler who would go abroad to see sights that are different, places that are unique, people that lead different lives. In proof of its assertion the carrier issues a colorful lithographed map (part of which is reproduced here) to spotlight the parallels between the oddities of the world and their replica in the U.S.A.

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highway in the state. Many roads which start off well do not go anywhere in particular and end in cow paths. From the official standpoint they are highways—but they mean nothing but disappointment to the motorist. Deleting them makes it easier for the motorist to find the roads he can really use. Incidentally, the touring map makers decide which place names are to appear on the map—for the motorist does not want his map cluttered with place names which are merely local names for unpopulated highway crossings. It was upon the advice of these touring map makers that additional colors were added to Socony-Vacuum maps. Even a careless map reader will not confuse a river with a winding road if rivers are printed in light blue.

The first step in the actual manufacture of a road map is the drafting of the

map, in pen and ink, to about four times the size the printed map will be. Place names and other detail are hand lettered, also in pen and ink. This "first draft" or "dummy" is studied to eliminate errors and to obtain the utmost legibility by the selection of the type in which place names are to appear. When the "dummy" is approved, it is fixed to a glass top table and over it another sheet is spread on which the actual base map will be drawn. Electric lights under the glass make the sheets transparent and facilitate the work of the draftsman who *traces* from the "dummy" the highways, rivers, mountains, and the lines of political divisions. Route numbers, symbols of various kinds, and place names are *stamped* on the map with type. The type is the metal type used by printers and is fastened in a holder or "stamping stick" which enables the draftsman to use it as he would a rubber stamp. The New York State map

employs about 60 different sizes and styles of type for place names.

From the finished drawing are made the plates from which the map is to be printed by photo-lithography. National Process Company, New York, handles this work for Socony-Vacuum.

Register is of paramount importance in map lithography, for every color must appear exactly in its proper position. Red line, for example, only one thirty-second of an inch out of place, would make the entire map confusing if not entirely useless. For offset lithography (selected because of the fineness of line obtainable commercially) the paper is dampened—and dampened paper shinks. This difficulty is overcome by doing the printing on four-color presses—all of the colors being applied during a single trip through the press. Shrinkage of all colors being uniform, register is preserved.

Humorists have plenty of fun with the multitude of folds of the road map. The fact is, however, that a road map, often a yard square, must be folded if the motorist is to carry it, and map makers have given much thought to the methods of making these folds. A few years ago it was difficult to refold the maps because pockets of air were trapped by the folds. The accordion folds and semi-accordion folds employed today eliminate this difficulty and, in addition, make it a simple task to get the map back into its original folds. Many "trick folds" have been devised—some with apparent advantages. None of them have ever won much approval from those most concerned—the motorists. The motorist, in fact, has found the highway map, carefully made and painstakingly kept up to date, an almost indispensable aid to motor touring.

The fascinating production story of map making is pictorially shown in sketchy form on these pages. Most of



After copy has been photographed glass negatives are made, which are turned over to artists who do all color separating by hand. View at left shows artist at work on a map negative.

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Fully equipped to supply your wants such as Smooth and Grain Leather Rollers, Molleton and Muslin Covers, also full selection of Hand Rollers, both Rubber and Leather for transferer's and prover's use. These are of our own manufacture and our half century reputation is in back of every one.

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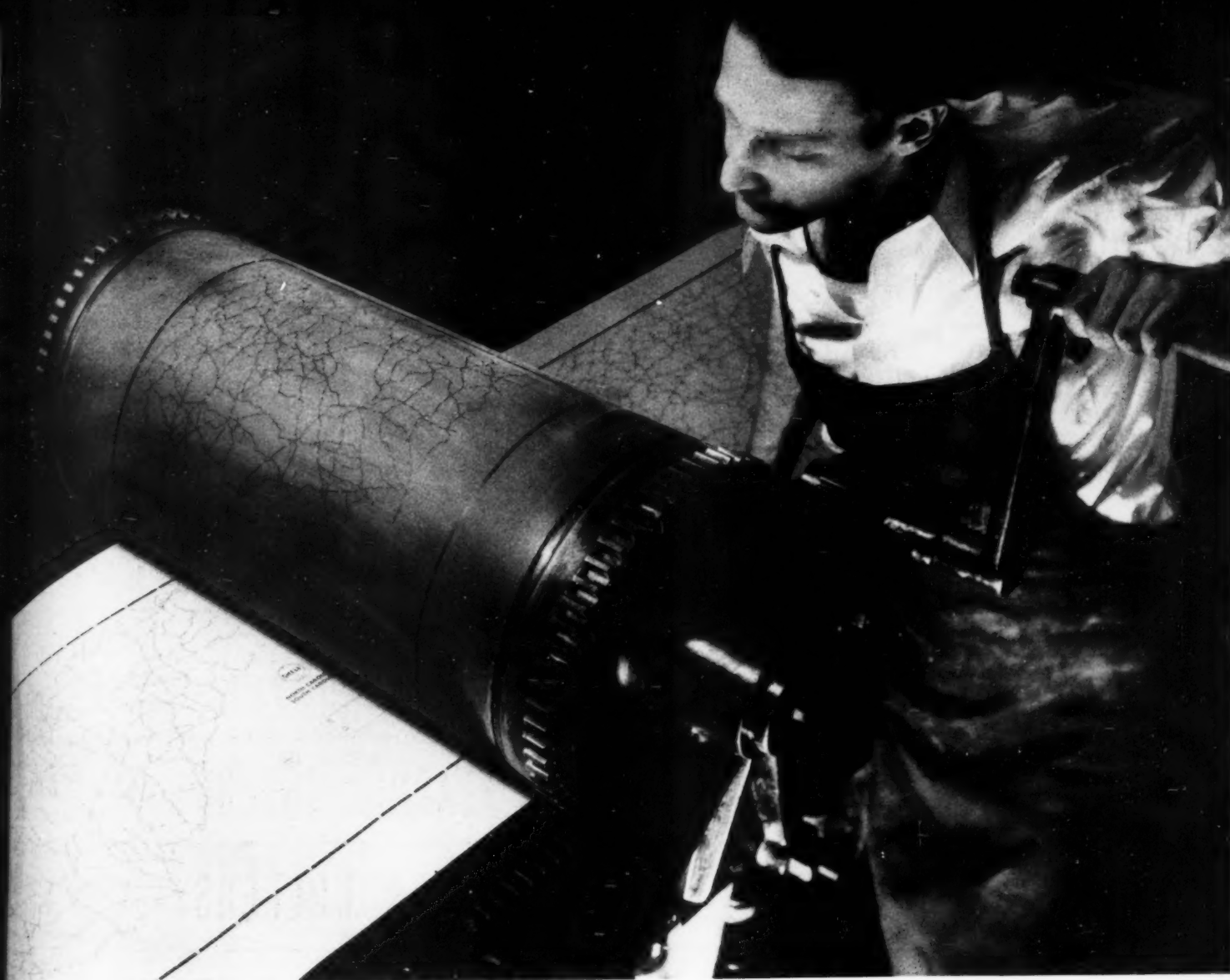
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Canadian Representative: LATIMER, Ltd., 7 Widmer Street, Toronto, Canada



the illustrations are from the Gousha Map Company, Chicago, producer of the Shell road maps as well as those for Conoco.

The vital advertising role played by road maps in the oil industry has given rise to their possibilities in other industries. Travel companies have made excellent use of attractive, multi-colored maps. But, according to Alexander Gross, F.R.G.S., a well known map expert, a rich, untapped opportunity exists for many advertisers other than oil companies and travel organizations. Says he:

"It is most singular that hardly any other businesses than oil have availed themselves of the great advantages of map advertising. There might be a mistaken idea among executives that the oil companies are already covering the

Offset plates are made by the photo-composing process and then put onto a hand proving press where proofs are made for checking purposes. For obvious reasons hairline color accuracy is the very lifeblood of a road map.

ground thoroughly, which could only be true as regards to road maps. But there are other maps suitable for sales promotion purposes.

"As a matter of fact there are maps which would enjoy even a more extensive popularity than road maps.

"A map of the world, for instance, would appeal to everybody, to pedestrians as well as motorists. The need for it is nation-wide instead of being confined, more or less, to any one state. Most people enjoy obtaining an idea (or refreshing their memory) as to where certain

countries are situated. In fact the studying of a world map is a most enjoyable pastime.

"Furthermore, the heritage of the last war has created an international situation which for many years will provide interesting (if unhappy) and almost daily occasions for the use of a World Map. The increasing number of skeleton maps in the daily newspapers are proofs of the growing map-mindedness of the American public.

"A well drawn map of the world with attractive coloring can be produced as cheaply as the oil companies' road maps so that it would not entail a larger outlay on the part of the advertiser.

"In view of the extraordinary large demand which such World maps would undoubtedly enjoy, the question arises

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whether it would not be expedient to make a small charge, say one or two cents per copy, which the public would not hesitate to pay, in order to obtain a map which would be similar to those ordinarily sold for \$1.00 a copy.

"Thus, the advertiser may obtain a considerable revenue in cash as well as in publicity value.

"An atlas of the world would also provide a good medium for advertising. In England a tea distributing company has been issuing, for years, millions of copies of a 16-page atlas and charged the public one penny (two cents) per copy. The retail price of similar atlases is considerably greater, but in large quantities they can be produced very cheaply.

"As far as more elegant editions of atlases are concerned, with say 96 to 192 pages in attractive bindings, these are admirably suited for premiums. Here again, by cooperating with an enterprising map publisher, the promoter will obtain practically the full benefit of the large cost of map drawings, his cost being confined to paper, printing and binding."

In considering the good will value of

Multi-color offset presses start to whirl and millions of road maps begin to roll off for the use of America's motorists. No advertising medium has met with a warmer response than the invaluable road map. Below is another advertising map that has met with wide favor. Produced by Forbes Lithograph Co.



maps it would not be amiss to study the opinion of Socony-Vacuum, whose various units will this year distribute more than 9,000,000 copies of 50 different road maps, in addition to 3,000,000 de-cour maps of some of the Eastern states. Says this advertiser:

"Aside from this huge volume of maps, nobody knows how many requests for touring information we will answer—for almost every request for a map is accompanied by a request for specific information. Our touring bureau at 26 Broadway and its branch at the Rockefeller Center exhibit will handle about 200,000 requests this season.

"This is our idea of friendly service, which we have found to be good business as well. As a friendly service the distribution of touring information makes friends for our company. The fact that our maps are accurate, easy to read and cheerfully given makes people feel kindly toward us—and that certainly helps. In addition, everything that we can do to encourage people to go places in their cars increases the sale of gasoline and motor oil."



AS WE SOW...

A bumper crop cannot be expected from soil that is indifferently prepared or from poorly selected seeds.

The lithographer who desires perfection must plan his groundwork from the beginning with modern presses and carefully chosen rollers. To these he makes the addition of proper plates, ink, paper and the skill of his workmen.

Only then is he prepared to produce, in accurate line and color, anything from the tiniest labels to a twenty-four-sheet poster.

The lithographer's use of Ideal Lithograph Rollers is based upon the knowledge that they assure him clean, clear impressions and full color values throughout the run; also more water control and less mechanical difficulty than any other rollers.

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CHICAGO NEW YORK

Sales and service branches are located in principal cities

DOT-ETCHING

ROBERT F. REED, Research Director

Lithographic Technical Foundation, Inc.

THE subject of dot-etching is so broad and involves so many factors that it will be possible to touch only the highspots in this discussion. The artistic side of tone and color correction will be avoided because it is simply a compensation for errors and must, for the present, remain a matter of judgment. The discussion will therefore deal entirely with the technical side of the process which is subject to scientific study.

Dot-correction may be considered under two heads: (1) preparation of transparencies suitable for dot-etching, and (2) the chemical process of dot reduction. The actual application of chemicals to produce dot-reduction or etching is relatively simple, but the preparation of suitable transparencies involves many factors.

Preparation of Positives for Dot-Etching

There are two general types of dry plates and films available, which may be classified as "thick-film" and "thin-film." The older, or "thick-film" type, has an emulsion layer approximately .001 inch thick. The newer, or "thin-film" type, has an emulsion layer .0003 to .0004 inch thick, and the silver halide has a finer grain and is more concentrated than in the thick-film emulsions. Thin-film emulsions were developed primarily to meet the requirements of offset lithography and consist of two types, which may be classified by their method of development. One type is developed with a hydroquinone-paraformaldehyde developer. The other is developed best in the well-known hydroquinone-caustic developer.

There is no need to review individual properties of these materials. Each has a place in some process to which it is suited. It is sufficient to say that thin-film emulsions, developed with hydroquinone-paraformaldehyde developer seem to give the greatest contrast and freedom from fog, and produce negatives and positives closely approaching those made with wet collodion. These various plates and films give the photographer considerable latitude and it becomes a real problem to select the best materials and process with which to produce transparencies for dot-etching.

Before selecting the process and materials, the following questions must be answered:

1. Should dot-etching be done on the negative or on the positive?
 - a. If work on the negative is chosen, the negative can be used directly in making albumin plates. Or, contact positives can be made for deep-etched plates. In the latter case the negative should be made through a prism and all or part of the correction done on it, the remainder being done on the positive.
 - b. If work on the positive is chosen, the positive may be made either in the camera or by contact, as before-mentioned.
2. Should camera negatives or positives for dot-etching be made on thick- or thin-film emulsion?
3. Should contact positives be made on thick- or thin-film emulsion?

Thus the possibilities for variation in method are many, but before attempting to answer the above questions, it is necessary to examine the actual dot-etching operation.

How is Dot-Etching Accomplished?

When a photographic reducer is applied to a half-tone image, it penetrates the gelatin and dissolves the silver deposit as it goes. The dot, being more or less the shape of an inverted chocolate drop, has its base eaten away, and becomes smaller as the reduction proceeds. The "etching" is helped by the fact that the higher concentration of silver at the center of the dot uses up the reducer rapidly, while around the edges the reducer penetrates more freely. The edges, containing less silver, are therefore attached more rapidly, and from the side as well as the top.

Naturally, if the dot has a strong central core, it can be etched to a smaller size before it loses printing density, than a dot in which the silver deposit is more uniformly distributed. This is an important point in choosing the material and method for making the transparency.

Camera vs. Contact Transparencies

Because of the manner in which the dot is formed behind the halftone screen, camera negatives or posi-

tives can be made to yield the greatest latitude in dot-etching. Under the best conditions a 7/8-tone on thick-film emulsion can be reduced to a pin-point dot that is still dense enough to print on the metal plate. The same tone on thin-film emulsion can be reduced to about a 1/4-dot before it loses its printing density.

In the case of contact positives, the quality of the screen negative has some influence on etching range. If the negative is made on thin-film emulsion, the negative dots will be relatively sharp. On a positive made from such a negative, on thick-film emulsion, a 7/8-tone can be reduced to about a 1/2-dot before printing density is lost. If thin-film emulsion is used for the positive, a 7/8-tone can hardly be reduced below a 5/8-dot.

If the negative is made on thick-film emulsion, the negative dots will be softer than on thin-film emulsion. In this case positives made on both thick- and thin-film emulsions will have a somewhat greater etching range than if a thin-film negative is used.

Both camera and contact positives can be dot-etched sufficiently for practical purposes if made correctly, and the extent of correction possible in the case of contact positives can be increased by dot correction on the negatives.

Dot Depth.—The first requirement for a maximum "etching range" is that the silver deposit, which constitutes the dot, must extend as deep as possible into the emulsion and still retain its chocolate-drop shape. The attainment of a suitable dot depth involves both exposure and development. However, there is no way to determine dot depth by examination of the cross section of the dot in practice, and control of this step must remain a matter of experience and judgment. The best method of control found is that of viewing the plate or film on both sides, during development, by reflected safe light. Exposure should be such that normal development will cause the image to appear distinctly on the glass or film side but not quite as strong as it appears on the emulsion side. It is impossible to describe this quality more accurately, but if the practice is followed, the correct relationship can be found by experience.

Camera Transparencies.—For the best results with camera transparencies, the originals or the negatives to be photographed should have a density range such that the half-tone transparency can be made with a single stop. This density range, or contrast, can usually be obtained in a continuous-tone negative by

choosing exposure and development to suit the copy. However, if it is necessary to use extreme types of continuous-tone negatives, or to make screen negatives direct from copy, the amount of correction can be reduced somewhat by photographing through more than one stop. Remembering that the depth of the dot is all-important, dot depth should never be sacrificed by attempting to compensate for wrong exposure by over- or under-development. Every effort should be made to obtain the proper dot depth without too great a distortion of tone values. We believe that the best control of tone values through all the steps of reproduction is obtained by working from correct continuous-tone negatives to screen positives. Density measurements on the copy and on the negative are a great help in this direction.

Contact Positives.—If contact positives are made from "thick-film" screen negatives, and exposure is sufficient to give the proper dot depth for etching, the tones on the positive will be considerably increased and will require excessive correction. The growth can be allowed for by making the negative higher to start with, but this involves a considerable element of judgment. However, if practically all of the correction is done on the negative, a shorter exposure can be used in making the positive so as to duplicate the negative tone values. A considerable dot depth is not necessary in this case.

If contact positives are made from "thin-film" negatives, sufficient exposure can usually be given to produce the proper dot depth, without as much spreading of the dots and consequent increase in the tone values as in the case of thick-film negatives.

In either case contact positives made on thin-film emulsion seem to be preferable, as they duplicate much more nearly the tone values of the negative.

We believe that the process of making direct screen negatives on thick- or thin-film emulsion, correction of the negatives by dot-etching, and the making of contact positives on thin-film emulsion gives better results than dot-etching on the contact positive alone. However, on the whole, the process of making halftone positives from partially corrected continuous-tone negatives is preferred.

Dot-Reduction

Four reducers have been investigated with regard to their dot-etching properties. They are:

Farmer's Reducer (Ferricyanide-Hypo)
Iodine-Cyanide
Ferricyanide-Cyanide
Ceric Sulphate

There are no fundamental differences in the actions of these reducers on the silver dot. One of them will produce just as good results as another in experienced hands, although each has certain advantages and disadvantages.

Farmer's Reducer.—The only disadvantage of Farmer's Reducer is its instability. However, it is easy to mix fresh solution for tray etching, and separate solutions of ferricyanide and hypo may be used for local etching. There is little difficulty with stains unless plates have not been washed well and have been allowed to stand for some time before being dot-etched. The activity of Farmer's solution can be altered by varying its ferricyanide concentration. Its strength is indicated by the intensity of its color, which disappears on exhaustion.

Iodine-Cyanide.—Iodine-cyanide solution is more stable than Farmer's Reducer and usually may be used for 4 to 8 hours after mixing. It is colorless, however, and its activity can be judged only by trial. As it ages, its softening effect on the gelatin increases. It is very poisonous, but with reasonable care there is no danger in its use. Increasing the iodine concentration increases its strength. Increasing the cyanide concentration increases its tendency to soften the gelatin.

Ferricyanide-Cyanide.—This mixture is more stable than Iodine-Cyanide and will keep for several days. Its activity is proportional to Ferricyanide concentration. It is colored and its strength, when fresh, can be judged by its color. Like Iodine-

Cyanide, the mixture is poisonous, and it softens the gelatin if the cyanide is too strong.

Ceric Sulphate Solution.—Ceric Sulphate Solution is stable and keeps indefinitely. Its rate of reduction can be adjusted simply by dilution. Its activity can be judged from the yellow color of the solution, which disappears on exhaustion. The only objection to its use is its expense, and the care required in its preparation. However, solutions of "0.1 normal" Ceric Sulphate, intended for analysis, but suitable for dot-etching, may be purchased ready prepared.

For all reducers except Farmer's, the plates should be thoroughly washed after fixation. If any hypo remains, it reacts with the reducer and often produces stains. Even in the case of Farmer's Reducer, the last trace of hypo should be washed out unless the dot-etching is to be done within, say 24 hours after fixation and drying.

It should be emphasized again that the most important factor in the successful operation of a dot-etching process is the choice of methods and materials for making the negatives and positives. Choice of the reducer is not so important, and any one of the four described will give excellent results with a little experience, if the dots are of correct depth and the necessary alteration of tones is not too great. There are so many factors involved, however, that it is impossible to give definite instructions that can be followed to the letter and which will insure success in every case. In each shop a certain amount of experimental work must be done, and experience acquired, to develop a suitable technique.

Brown Lithographic Company Installs Huge Camera

THIS concern, a division of Brown Superior Printing Corp., and located at 406-426 West 31st Street, New York, has recently installed what is believed to be one of the largest cameras in the world. Designed and constructed by the Wesel Manufacturing Company, it has many features which add to its usefulness and ease of operation. It is what is known as the overhead type, with spring suspension, stationary back-box, movable lens-board, and dark-room control for horizontal and vertical movement. It is equipped with a 150-line circular screen, 55 inches in diameter. This makes possible color separation or halftones of large copy without patching. The regular lens is a Goerz with a focal length of $47\frac{1}{2}$ inches. A special lens is also provided for making large blow-ups.

Interesting are many of the dimensions of this mammoth camera. For example, the copy-board measures 4 by 6 feet. The maximum size of a line-plate which can be handled is 4 feet square. The maximum halftone plate

with full screen coverage is 39 inches each dimension. The total length of the camera, over all, is 25 feet. The weight, excluding the screen, is about a ton and a half. An unusually powerful lighting equipment makes possible very short exposures and also adds to the quality and speed in color separation and commercial work.

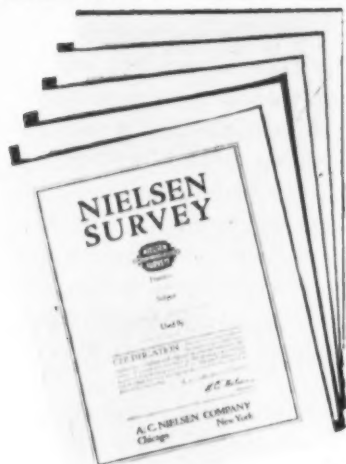
In addition to this latest type of camera, the plant has other Wesel equipment, including one of the latest improved photo-composing machines, an up-to-date vacuum-frame, as well as a whirler for coating and making press-plates.

The pressroom is well equipped with a number of automatic feed Miehle and Harris one- and two-color presses.

Quality and speed of production is obtained by one of the latest type paper-seasoners, thus insuring accurate registering of colors.

The Brown plant is in every respect a model of its kind, being unusually clean and well-lighted, and is so arranged for the maximum of orderly and efficient production.

HOW 10 PLANTS MAKE MONEY ON BRONZING



**Send for
Copies of These
Surveys**

You can't afford to overlook these startling facts on bronzing work, revealed through actual plant surveys by a disinterested, nationally known firm of industrial engineers.

These Nielsen surveys go directly into the heart of 10 different plants, representing a true cross section of the industry. They disclose how Christensen High-Speed Bronzers have effected cost reduction ranging from \$2000 to \$5000 a year. This is information you can not afford to ignore. When equipment can produce savings large enough to repay the original cost in from one to two years, you certainly should be informed about it.

So that you may have the facts in unimpeachable form, these certified records have been made covering all kinds of work in all kinds of plants. Some situation is sure to be similar to your own. Why not make a comparison? A letter, on your stationery, will bring you copies without charge and without obligation. THE CHRISTENSEN MACHINE CO., 100 FOURTH ST., RACINE, WIS.

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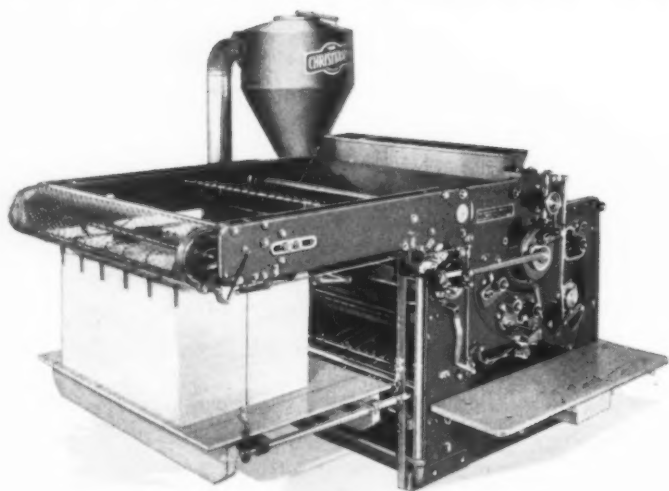


Photo-lithographic Book Illustrations

AS is to be expected, book publishers are a conservative lot, and the design and manufacture of books follows more or less closely the models laid down by Gutenberg, and other early practitioners of the craft. For many centuries after the invention of typography, the sole product of the printer was books. Not until centuries later did newspapers and magazines enter the field, and only within the past quarter century has printed advertising become an important factor in the product of the printer.

Despite the great changes that have taken place within the past few years, the book publisher has altered but slightly his conception of how a book should be designed and manufactured. The usual procedure, and a wise one from the publisher's point of view because it is doubtful if any other sort of book would sell, is to sew the book, bind it in cloth over boards, print the text on antique paper, with halftone illustrations printed on coated paper and tipped in between signatures, or in the middle of signatures.

When, however, a book has more pages of illustrations than text, or even a lesser number, the practice has been to print the entire book on coated paper, with a result that it is unsatisfactory in every way, the volume having the weight and feel of a thin sheet of cast iron, and if by chance water should be spilled on the book, its instant ruination is complete. Attempts have been made to overcome this by the use of smooth finish uncoated papers and coarse-screen halftones. Seldom, however, does such a combination yield results equal to those obtained with coated paper.

We recently had the opportunity to examine a book which seems to point toward the solution of this problem. The printing of the text-pages and the binding follow the traditional style, but the many illustrations were by the photo-lithographic method, using a dark brown ink. Unfortunately, the author of the book also made the photographs used for the illustrations, and he is far from an expert with the camera. In that respect the book falls short of perfection, for it can not be emphasized too strongly that a poor photograph means an unsatisfactory reproduction.

Then, too, the hundred odd full-page pictures were grouped in four sections. It would have been better if the book had been printed throughout by photo-lithography, text as well as illustrations, which would have made it possible to place the illustrations wherever desired. This would have been quite practicable, since the type-matter appearing on the illustration pages is as clean and sharp as the letterpress work.

Perhaps the time has not yet arrived, but there is every indication that it will not be long before the more progressive book publishers will begin to use the photo-lithographic

method. At the present time, so far as we can determine, the only objection is that some photo-lithographers are not doing as good a job with type reproduction as is possible. On the other hand, there are a number of firms that are achieving results equal to even the better than the average grade of letterpress printing.

Of course, it is important to make an intelligent comparison of the costs of the two methods. So many factors enter into the problem that every job would have to be considered on its merits. We believe, however, that when everything is taken in consideration, it will be found that in many cases a book can be produced by photo-lithography as economically as by letterpress, and with perhaps more satisfactory results.

Old-Time Ink Firm Moves to New Quarters

GAETJENS, Berger & Wirth, Inc., have removed to the Gair Building, 35 York street, Brooklyn, N. Y., where they will have enlarged quarters for serving their country-wide trade in lithographic, engraving, and typographic inks. This concern is the offspring of Berger & Wirth, who began the manufacture of printing inks at Leipsic, Germany, in 1823. The Brooklyn firm was established in 1915. With the absorbing of the New York firm of Berger & Wirth, Inc., in 1926, the facilities of a modern printing factory were obtained, and with the removal to the present quarters, additional facilities will permit the further development of all types of inks used for printing purposes.

STOLEN MERCHANDISE

One F1:9 75 c m Zeiss Apotessar lens No. 950579, equipped with Douthitt diaphragm control, series 4V1.

One F:11 24-inch Goerz Apochromat Artar lens, No. 399211, equipped with Douthitt diaphragm control, series 4 E 2.

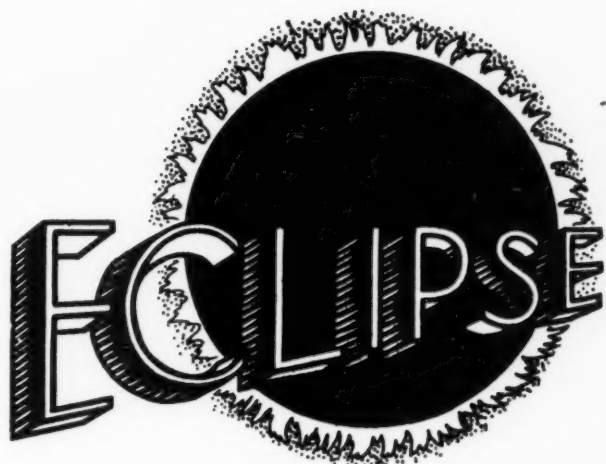
Stolen from the plant of JOHN BORNMAN & SON, 601 W. Fort St., Detroit, Mich.

One 18-inch Zeiss Apotessar lens, No. 872506, equipped with Douthitt diaphragm control.

One 25-inch Zeiss Apotessar lens, No. 628450, equipped with Douthitt diaphragm control.

Stolen from the plant of CARTER CO., 51 W. Hancock Ave., Detroit, Mich.

Any information regarding these lenses will be appreciated by the above companies.



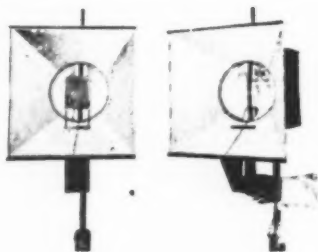
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want direct light, pull down
with finger tips and diffusers
disappear instantly.

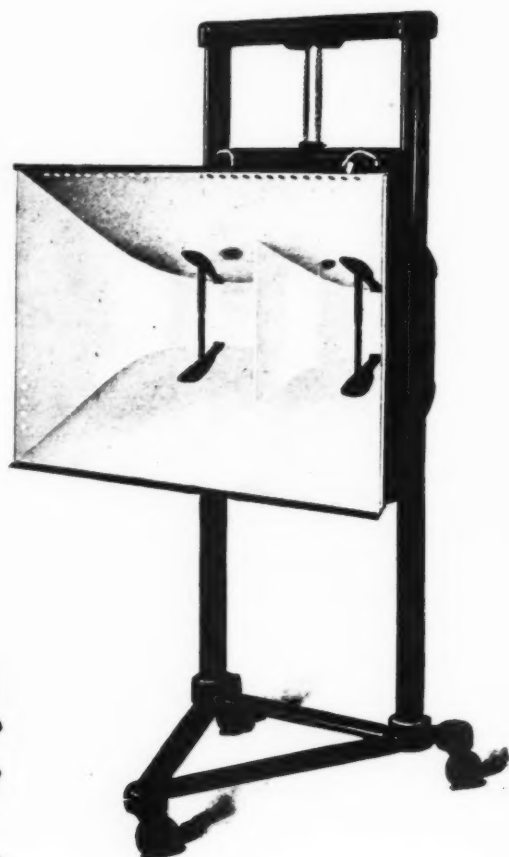
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Lithographers throughout the country prefer **Sinclair & Carroll** inks for their color strength and good clean running properties on the press. These inks consistently prove their own merit and dependability by a faithful and clear cut reproduction of subject matter. In addition, many lithographers find sound value in the personal interest and cooperation always evident wherever **Sinclair & Carroll** inks are in use.

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SAN FRANCISCO, CAL. 345 Battery Street Tel. Garfield 3750

Selling Lithography

(Continued from page 20)

The final half, however, is just as simple as the first. It is merely anticipation. The first thing a prospect would ask when he picks out something from my selection would be the price. So I would arrange to have the price for the job; not only that, but prices for different quantities. That means I would have to know whether my house did any art work or composition, or whether these were supplied by the customer.

Extra efforts—of course! Yet worth while, for I would have a complete plan. Besides, there would be no business of getting a number of "quotes" on the part of the prospect. He sees something he likes, and asks the cost. If he can afford it, he will buy. If not, perhaps because of the make-up or the form in which he is chiefly interested, I can suggest savings by reduction in size, by a more inexpensive paper stock, by elimination of color.

To secure prices on different quantities might be asking too much of the house or its estimator. But, it is an easy matter for the salesman himself to figure what additional five hundreds or thousands would cost. Paper, press impressions, folding or binding these cover practically all. Where the prospect asks for price on a quantity less than run on the job, it is an easy matter for your house to give you a quick quote, inasmuch as job envelopes with old estimating forms are available.

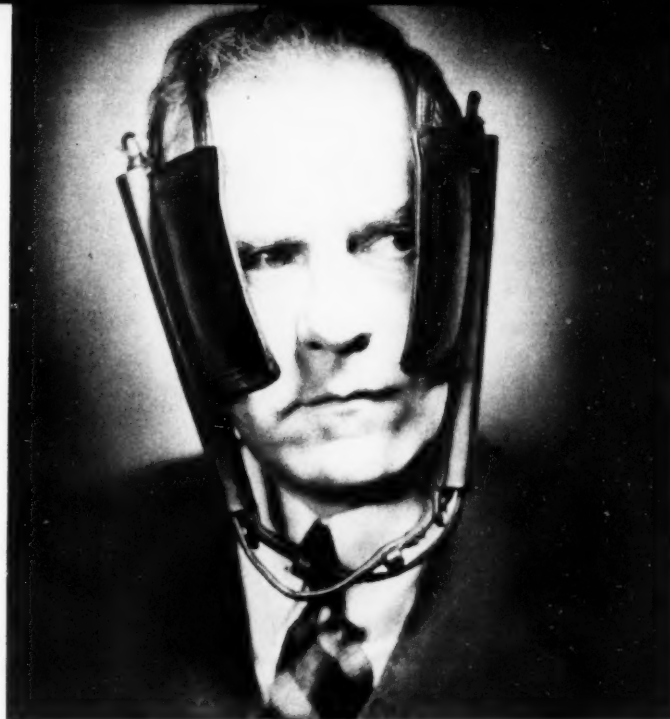
It may be advisable to inform your prospect at your initial call that prices will also be tendered. With some, this will be a good and extra talking point.

The application as outlined does all of this:

- Enables you to make a refreshing approach;
- Permits you to group together a number of prospects who will receive you regularly, and gives you a good reason for following them up;
- Indicates the grade and quality of work your house is capable of doing;
- Allows you to tender a price on a piece done by your house, not on specifications passed out by the prospect to you and to others;
- Gives you a clean-cut, workable plan which is well-rounded and concrete instead of haphazard and indefinite.

INCREASE YOUR SALES

The Photo-Lithographer enjoys a real consumer acceptance. The lithographers are interested in a lithographed publication. Tell your story to the lithographic industry in a lithographed paper.



Take Off The Blinkers!

Stop blinding yourself to the advantages of Litho-Print. It's no longer something new—it's proven itself. It's time to take off the blinders and face the facts.

Bingham Litho-Print Rollers were invented specifically for offset work. They have been designed to insure the best possible quality of lithography on long runs at high speeds. It is to your and our advantage to have this so.

True enough, Litho-Print Rollers look different and feel different than ordinary ones, but what does this mean? Nothing in itself, for regardless of the fact that they're different in texture, looks, and feel than ordinary rollers, the important thing is that they produce better results than any other offset rollers on the market.

Can you afford to blind yourself to this fact?



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SCHOOL TO TRAIN LITHOGRAPHIC HELP

The Progressive Policy which has characterized the Lithographic Industry for many years is evidenced anew in the recently effected coöperative arrangements between the Lithographic Technical Foundation, Inc., head office at 220 E. 42d Street, New York City, and the New York Trade School, 304-326 E. 67th St., New York City, whereby approximately 6000 square feet of space are to be utilized by the Foundation for trade school purposes.

Certain policies respecting organization and administration of this trade school will be determined by an advisory committee of seven; three employee representatives, three employer representatives, and an impartial chairman. The initial employee representatives are: Andrew J. Kennedy, International President, The Amalgamated Lithographers of America; Albert E. Castro, President, Local No. 1 New York City; and Justus Ebert, Editor, *Lithographers Journal*. The employer representatives, appointed by the Lithographers National Assn. Inc., 295 Madison Avenue, New York, N. Y. are: C. P. Schmid, President, Trautmann, Bailey and Blampey, New York City; George E. Loder, President, The National Process Co. Inc., New York City; and C. J. Heim, Treasurer and Superintendent, Kindred, MacLean and Co., Inc., New York City. The impartial chairman is D. J. MacDonald, Educational Director, Lithographic Technical Foundation Inc. Mr. H. V. Brill, Secretary, and Superintendent, New York Trade School, and Mr. G. G. Weaver, Assistant Educational Supervisor, New York State Department of Education (80 Center Street, New York City), worked closely with Mr. MacDonald in perfecting the operating arrangements for the school.

The Amalgamated Lithographers of America, an industrial union representing all classifications of skilled men in the lithographic industry, has, in the past, operated its own trade schools; likewise, groups of employers have, at various times, sponsored similar courses of instruction. The present enterprise, however, is believed to be the first instance of joint sponsorship of a plan for the education of apprentices in the lithographic industry, representing an expression of the same spirit which, during the N. R. A. period, prompted the setting up of an Industrial Relations Committee composed of employee and employer representatives.

While meeting the needs of the lithographic industry in the Metropolitan New York area is the immediate aim of the school, in due time, by reason of rehabilitation courses and other courses to be developed, the lithographic industry, as a whole, will increasingly profit from this forward-looking undertaking.

Manufacturers of lithographic equipment are coöperating with the Foundation by generously installing up-to-date equipment for trade school purposes, \$50,000 worth of such equipment having already been assured.

Chief donors to date are: R. Hoe & Co., New York City; General Printing Ink Corporation, New York City; Harris-Seybold-Potter Co., Cleveland; Rutherford Machinery Co., Rutherford, N. J.; Repro-Art Machinery Company, Philadelphia; Bausch & Lomb Co., Rochester, N. Y.; and C. P. Goerz, American Optical Co., New York City. It is planned to offer courses in all phases of camera work, offset-press work, stripping, color correcting (retouching), press plate making, hand-transferring, and proving.

The Lithographic Technical Foundation, Inc., a very important outgrowth of the Lithographers' coöordinated activities, was created in 1925 as a separate unit devoted exclusively to technical research and education in the lithographic industry. The Foundation has an endowment of close to a million dollars, the income from which fully covers its operating expenses.

Officers and Directors of the various organizations who are taking especial interest in this coöperative activity, are listed below:

LITHOGRAPHIC TECHNICAL FOUNDATION, INC.—New York City.

- Alfred B. Rode, President, Lithographic Technical Foundation, Inc.; President, Rode & Brand, New York City.
- R. V. Mitchell, Vice-President, Lithographic Technical Foundation, Inc.; President, Harris-Seybold-Potter Co.
- Charles W. Frazier, Treasurer, Lithographic Technical Foundation, Inc.; President, Brett Litho. Co., Long Island City.
- R. R. Heywood, Secretary, Lithographic Technical Foundation, Inc.; President, R. R. Heywood Co., Inc., New York City.
- D. J. MacDonald, Educational Director, Lithographic Technical Foundation, Inc.
- Prof. R. F. Reed, Director, Dept. of Lithographic Research, Lithographic Technical Foundation, Inc.
- W. S. Forbes, President, Forbes Litho. Mfg. Co., Boston.
- Arthur A. Goes, President, Goes Lithographing Co., Chicago.
- Leroy Latham, Chairman, Latham Litho. & Ptg. Co., Long Island City.
- Trowbridge Marston, President, Kaumagraph Co., New York City.
- W. H. Merten, Vice-President, The Strobbridge Litho. Co., Cincinnati, Ohio.
- Ralph T. Ode, President, Providence Lithograph Co., Providence, R. I.
- Gen. Wm. Ottmann, Vice-President, U. S. Ptg. & Litho. Co., New York City.

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- Richard L. Morris, The New York Trade School; Hayden Stone & Co., New York City.
- M. W. Kellogg, The New York Trade School; President, M. W. Kellogg Co., New York City.
- Courtlandt D. Barres, W. H. Goadby & Co., New York City.
- Filton Cutting, Colonial Radio Corp., Buffalo, N. Y.
- Gerrard B. Winston, Sherman & Sterling, New York City.
- Junius S. Morgan, J. P. Morgan & Co., New York City.

AMALGAMATED LITHOGRAPHERS OF AMERICA—Headquarters, New York City.

- Andrew J. Kennedy, New York City, International President.
- Robert Bruck, Chicago, Ill., Vice-President, Acting Secretary & Treasurer.
- Fred W. Rose, St. Louis, Mo., Second Vice-President.

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is a scientific product specially prepared for use as a sensitizer base in photolithography, on both zinc and aluminum plates.

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"EGGSACT" is very convenient and easy to handle, because it is always ready for use. No waiting for albumen to dissolve, no straining or filtering necessary.

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*Your plate maker has many problems.
Help him with an "EGGSACT" start.*

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TECHNICAL DEPARTMENT

Questions and Answers

IT is hoped to make this department of great help to all subscribers to THE PHOTO-LITHOGRAPHER. It will be in charge of Dr. L. R. Meloy, who is so well known in the industry for his comprehensive knowledge of all details, not only of photography, but every photo-reproduction process. Therefore, if you are concerned with a difficult technical problem of any kind, do not hesitate to write to this department, explaining as clearly as possible what the trouble is, and, if possible, send samples of the work which you find difficult or impossible to print in a satisfactory way. It is more than probable that Dr. Meloy, drawing on his long experience, and the great store of technical knowledge he possesses, will be able to suggest a remedy.

QUESTION: *We have a great number of standing type forms which we wish to transfer to zinc plates without photography. We have experimented with onion-skin proofs, but met with little or no success; the chief difficulty is with the rules, which do not reproduce clearly. Please advise us in detail as to how to pull a satisfactory bronzed proof—what kind of paper, ink, packing, bronze powder, etc. If we can find a way to obtain satisfactory proofs, it will enable us to make many negatives by contact, since this work requires neither reduction nor enlargement.*—WICHITA, KANS.

ANSWER: What you require is an offset proof-press. Take one or more of your type forms, depending on their size and the size of the proof-press, or any line-plates or halftones, and adjust them for the correct height. They should be cleaned very thoroughly and carefully inked with the best grade of engraver's proof-ink. You now make an impression from the form to the blanket of the proof cylinder, and then offset it to the stock. Do not use onion-skin or any kind of paper for this purpose. Instead, use plain or grained kodaloid, pyralin, or some other transparent medium.

After the impression is made on this transparent material, the image should be dusted with aluminum powder, cleaned and washed under water, dried, and the negative then made from this impression by contact pressure in a printing frame, or vacuum frame, to the sensitized film.

Another method which can be used, if you do not have an offset proof-press, is to make the impression on transfer paper, then stick it up in position and pull a transfer to the transparent medium, using the latter to make the negative.

QUESTION: *Can you advise us as to the best way to reproduce the enclosed photograph, which measures 9 x 11 inches, and which we intend to reproduce in almost its*

present size? We had thought of reproducing it in two colors, hoping to obtain a result approximating that obtained in the enclosed advertisement. We note, however, that this is a 4-color reproduction, and therefore it is not likely that only black, and various gradations of red, would be very satisfactory. The reproduction is to be used for the cover of a magazine, and instead of an offset stock, we wonder if we could use a cream or light india tint hard-finish cover paper, such as Buckeye, Highway or Baypath. We would appreciate any information you can give us as to the best way to handle this problem.—
NEW YORK.

ANSWER: To reproduce this photograph in color in the best possible way would require a large amount of art work to lay in the correct color values. This can, of course, be done in two ways. The photograph can be colored in various shades of red until a satisfactory result is obtained, and then color-separation negatives obtained by color-filters.

Another method is to make two negatives that match exactly in size and then obtain the color separation by retouching the negatives. Neither of these methods should be attempted by an inexperienced person. Both require an unusual amount of skill, as well as knowledge of all details so that when printed the result will be satisfactory.

Another and more simple method is to use a hard finish cover paper of an india tint, or some shade of yellow, and reproduce the photograph in duotone, using a light shade of warm red for one color and a brown or brown-black for the other. You will thus obtain, in an economical way, a very pleasing effect, due to the yellow in the cover stock acting as a third or blending color in the reproduction.

QUESTION: We desire to reproduce by photo-lithography a number of wood engravings, the blocks of which are no longer in existence. As you will note from the proofs enclosed, which are the only ones in existence, this engraver used very fine stipples, lines, and cross-hatching. We fear that if we screen these blocks the effect will not be satisfactory. Would it be possible to reproduce the subjects direct, not interposing a screen between the camera lens and the negative?

ANSWER: These proofs are, without question, the finest examples of the lost art of wood engraving we have ever examined. Only a painstaking and consummate artist with long experience and much study, could have produced, by means of a burin, such delicate tones of light and shade. At first glance, it would seem that only by the use of a screen could a satisfactory reproduction be made. If, however, they are examined under a strong glass it will be noted that every dot and line is clear and sharp and surrounded by varying amounts of white space. To reproduce these subjects through a screen would destroy much of their surpassing beauty. They can be made direct,

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TECHNICAL DEPARTMENT

(Continued from page 61)

providing no reduction is necessary, and great care is exercised in every operation. If, however, some of them are found to be too fine for direct reproduction, then those subjects can be enlarged on the negative, and then reduced to the correct size on the positive. Of course, it may be necessary to use a paper with quite a smooth surface, but it may be worth while to experiment with stocks of a trifle rougher texture. Since, however, we assume you are striving for as close an approximation of the originals as can be obtained by a different process, then a smooth-surface paper would seem to be required.

QUESTION: *As an appreciative reader of your excellent magazine, we want to ask you a question: When we want a gray background to show up smooth and solidly under lettering or cuts, how can we obtain it?*—ST. JOSEPH, MO.

ANSWER: A gray background such as you desire may be obtained in several ways. One method, which gives a uniform and smooth tint, is to strip in the lettering or the engraving over a halftone tint of the proper dot size. These tints may be made by your photographer in his spare time, shooting the screen on wet plates with varying exposures to obtain different dot sizes on the plate. The same result may be obtained with any of the numerous tint-sheets on the market. If you use an air-brushed background of gray under your copy and photograph it either with the copy or separately, you will probably have a very uneven tint formation.

Of the "Fifty Books" of 1936

THE fifteenth annual exhibition of 50 books of the year, sponsored by the American Institute of Graphic Arts, opened in New York in February and the books were on exhibition at the New York Public Library until March 15th. The exhibition will then go on tour to thirty large cities, thus giving an opportunity for many others to visit it.

An examination of these books, which were selected from over six hundred submitted, shows that what is widely described as modernism has made but little progress in the designing of books. There are a few efforts made to evolve a new form of book design, but the examples are few and far between, and the results are not very happy.

There is not space to deal with all these books, but one of the most successful is *Early American Rooms*. Another handsome volume, interesting because of its dignified design and simple typography, is *Boswell's Journal of a Tour to the Hebrides*.

BRIEFS

In writing for literature we would appreciate your mentioning THE PHOTO-LITHOGRAPHER

A most unusual treatment of Cascade Offset, made by the **Watervliet Paper Co.** of Watervliet, Mich., is shown in their sample book. The front cover shows a sheet of Cascade offset paper rolled around an offset press with the impression also shown in reverse on the offset blanket part of the press. Cascade offset is a tub-sized and hand-sorted sheet that can be conditioned quickly and will lie flat and stay in register. It comes in all stock sizes and weights both in white and seven special finishes.

The **Craftint Mfg. Co.** of Cleveland, O., will send to interested lithographers a specimen of Craftint Kit. The kit contains actual samples of Craftint SINGLEBOARD and DOUBLEBOARD drawing boards, and also black and white top sheets. Using doubleboard drawing board, it is possible to produce four distinct shades, ranging from black to grays, by the use of the various developers that are carefully explained in the literature enclosed with the kit.

In order to take care of rapidly expanding business, the **E. J. Kelly Co.**, Kalamazoo, Mich., manufacturers of the "Wotta Black" line of printing inks have recently increased their capacity by more than 20 per cent. New ink mills and other modern machinery have been installed for this purpose. New equipment has also been added to the research laboratory. This laboratory, and the staff of chemists, has played an important part in developing new types of printing inks which have enjoyed phenomenal acceptance.

"Ideas on Lexington Offset," a portfolio produced by the **International Paper Co.**, contains many fine specimens of lithographed jobs produced on various of the plain and fancy finishes. The cover of this sample book has a most unusual silhouette illustration of the Lexington Minute Man, the symbol of Lexington Offset.

The **International Press Cleaner & Mfg. Co.** have issued a brochure describing in detail the principles of the International Dampening Device, manufactured by this company to give the pressman control over the moisture supplied to the lithographic plate, so as to increase the output of the lithographic job, with spoilage reduced to a minimum. This company is located at 1265 W. Second St., Cleveland, O.

J. E. Linde Paper Co., well-known New York distributors for nationally-known paper mills, are now going full steam ahead in their greatly enlarged headquarters at the Port Authority Building, 15th Street and Eighth Avenue, New York.

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International Printing Ink Corporation, 75 Varick St., New York, N. Y.
Litho Chemical & Supply Co., 63 Park Row, New York, N. Y.
National Offset Supply Co., St. Louis, Mo.,
Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.

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Ardlee Service, Inc., 28 W. 23 St., New York, N. Y.
Gray, James Letter Shop, 215 E. 45th St., New York, N. Y.

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American Graded Sand Co., 2516-18 Greenview Ave., Chicago, Ill.

AGSCO SILICA GRAINING SAND

American Graded Sand Co., 2516-18 Greenview Ave., Chicago, Ill.

AIR CONDITIONING EQUIPMENT

Offen, B. & Co., 608 S. Dearborn St., Chicago, Ill.

ALUMINUM PLATES

(See Plates)

ALBUMEN

Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Holland, Thor, 7048 Jones Ave., N. W., Seattle, Wash.
Hunt, Philip A., Company, 253 Russell St., Brooklyn, N. Y.—2432 Lakeside Ave., Cleveland, Ohio—1076 W. Division St., Chicago, Ill.
International Printing Ink Corporation, 75 Varick St., New York, N. Y.
Litho Chemical & Supply Co., 63 Park Row, New York, N. Y.
National Offset Supply Co., St. Louis, Mo.
Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.

ALIGNING PAPER

(See Vogeltypes Paper)

ARC LAMPS

(See Lamps—Arc)

ASPHALTUM

Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Hilo Varnish Corporation, 42-60 Stewart Ave., Brooklyn, N. Y.
International Printing Ink Corporation, 75 Varick St., New York, N. Y.
Litho Chemical & Supply Co., 63 Park Row, New York, N. Y.
National Offset Supply Co., St. Louis, Mo.
Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.

ARTISTS

Hugo L. Sachs, 7 West 20th St., New York, N. Y.

ARTISTS' SQUARES

Zoltan, John M., 833 Lyman Ave., Oak Park, Ill.

ARTISTS' SUPPLIES

Peerless Blue Print Co., The, 347 Fifth Ave., New York, N. Y.

BELLOWS

United Camera Co., Inc., 1515 Belmont Ave., Chicago, Ill.

BENDAY AND SHADING MEDIUMS

(See Shading Mediums)

BINDINGS

Plastic—Brewer—Cantelmo Co., Inc., 118 E. 27th St., New York, N. Y.
Spiral—Spiral Binding Company, 148 Lafayette St., New York, N. Y.
Wire-O—Trussel Mfg. Co., Poughkeepsie, N. Y.
(See list of licensees in display advertisement)

BLANKETS

Bainbridge, Philip M. (Goodrich Rubber Blankets), 37 E. 28th St., New York, N. Y.
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Ideal Roller & Mfg. Co., 2512 W. 24th St., Chicago, Ill.
International Printing Ink Corporation, 75 Varick St., New York, N. Y.
National Offset Supply Co., St. Louis, Mo.
Rapid Roller Co., Federal at 26th, Chicago, Ill.
Reed Roller & Supply Co., Inc., 415-417 Jackson St., San Francisco, Cal.
Roberts & Porter, Inc., 100 Lafayette St., New York, N. Y., and 402 S. Market St., Chicago, Ill.

LITHOGRAPHIC ABSTRACTS

Abstracts of important current articles, patents, and books, compiled by the Research Department of the Lithographic Technical Foundation, Inc. These abstracts represent statements made by the authors of articles abstracted, and do not express the opinions of the abstractors or of the Research Department. Information concerning the books or periodicals abstracted may be obtained directly by addressing the Department of Lithographic Research, University of Cincinnati, Cincinnati, Ohio.

Photography and Color Correction

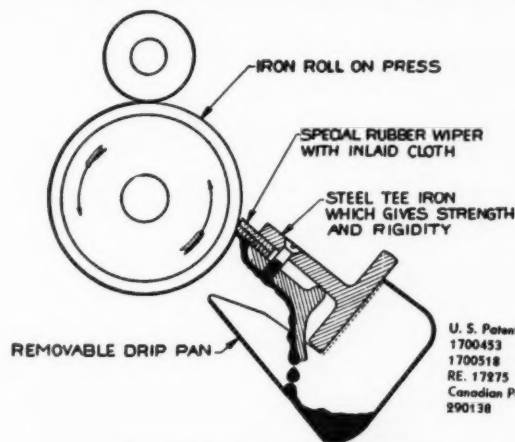
Photographic Type-Composing. M. Baldoni. *British Patent* No. 429,104 (1935). In a process of composing music photographically, component elements of the musical signs carried by a matrix are selectively imprinted on a sensitized sheet to form complete musical signs. The matrix may also carry signs, such as key signatures, complete in themselves. The sensitized sheet is afterwards developed for lithographic or typographic printing.

Collodion Silver Bath Process. A. C. Austin. *National Lithographer* 44, No. 1, Jan. 1937, p. 42. The necessity for the careful following of directions in trying new procedures is emphasized. In the case of the Wilkinson silver bath process, the photographer should note that the collodion formula includes bromine and iodine, not the bromides and iodides, and that the plate must be washed under the tap after sensitization to remove all free silver nitrate, since an alkaline developer cannot be used in the presence of free silver. Collodion emulsion is cheaper than dry plates, and halogenized collodion is cheaper than commercial emulsions, although it requires more time in preparation.

Adsorption Photography. F. L. Burmistrov. *Photographic Journal* 76 (New Series 60), Aug. 1936, pp. 452-9. A photosensitive layer can be obtained by treating a properly cleaned piece of bare glass with silver nitrate solution. The silver is said to react with the thin film of silica gel always present on glass surfaces. To increase the sensitivity of the method, the thickness of the film can be increased by treating it with different chemicals and the sensitive layer can be sensitized by dyes. The latent image obtained by exposure can be developed in any developer and then intensified to any density. It is claimed that a linear gradation and a very fine grain can be obtained and that the process can be used for the controlled production of metal deposits, e. g., of neutral wedges. It is shown by a separate experiment that there is a photosensitive compound of silver and silica. (*Monthly Abstract Bulletin of Eastman Kodak Co.* 22, p. 455 (1936).)

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 Vulcan Proofing Co., 58th St. and First Ave., Brooklyn, N. Y.

BRONZERS

Henschel Mfg. Co., Milwaukee, Wis.

CAMERAS

Agfa-Ansco Corp., Binghamton, N. Y.
 California Ink Co., Inc., The, 545 Sansome St., San Francisco, Cal.
 Croke, Allan A., Co., 163 Oliver St., Boston, Mass.
 Eastman Kodak Co., 343 State St., Rochester, N. Y.
 Lanston Monotype Machine Co., 24th at Locust, Philadelphia, Pa.
 Levy, Max & Co., Wayne & Berkley, Philadelphia, Pa.
 Litho Equipment & Supply Co., Ogden Ave., Sheldon & Lake Sts., Chicago, Ill.
 Miles Machinery Co., 18 East 16th St., New York, N. Y.
 Norman-Willets Co., 318 W. Washington St., Chicago, Ill.
 Ostrander-Seymour Co., The, 1870 S. 54th Ave., Cicero Station, Chicago, Ill.
 Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.
 Repro-Art Machinery Co., Wayne Ave. & Berkley St., Philadelphia, Pa.
 Robertson, R. R., 1 N. Canal St., Chicago, Ill.
 Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
 Sullebarger Co., E. T., 116 Nassau St., New York, N. Y., and 538 S. Clark St., Chicago, Ill.
 Wesel Mfg. Co., 468 Fourth Ave., New York, N. Y., and Scranton, Pa.
 Zeiss, Carl, Inc., 485 Fifth Ave., New York, N. Y.

CARBON (ARC LAMP)

Pease Co., C. F., The, 809 N. Franklin St., Chicago, Ill.

CARBON PAPER RIBBONS

Remington Rand, Buffalo, N. Y.

CARBONS—Photographic

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CHEMICALS

Agfa-Ansco Corp., Binghamton, N. Y.
 California Ink Co., Inc., The, 545 Sansome St., San Francisco, Calif.

Croke, Allan A., Co., 163 Oliver St., Boston, Mass.
 Eastman Kodak Company, Rochester, N. Y.
 Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
 Hunt, Philip A., Company, 253 Russell St., Brooklyn, N. Y.—2432 Lakeside Ave., Cleveland, Ohio—1076 W. Division St., Chicago, Ill.
 International Printing Ink Corporation, 75 Varick St., New York, N. Y.
 La Motte Chemicals Products Co., 438 Light St., Baltimore, Md.
 Litho Chemical & Supply Co., 63 Park Row, New York, N. Y.
 Mallinckrodt Chemical Works, 3600 N. Second St., St. Louis, Mo.
 Merck & Co., Inc., Rahway, N. J.
 National Offset Supply Co., St. Louis, Mo.
 Norman-Willets Co., 318 W. Washington St., Chicago, Ill.
 Phillips & Jacobs, 622 Race St., Philadelphia, Pa.
 Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.
 Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.
 Siebold, Inc., J. H. & G. B., 47 Watts St., New York, N. Y.

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Glogau & Co., 538 S. Clark St., Chicago, Ill.

COLOR CONTROL AND MEASURING EQUIPMENT

Huebner Laboratories, 202 E. 44th St., New York, N. Y.

COMPOSING MACHINES

Coxhead Corp., Ralph C., 17 Park Place, New York, N. Y.

COMPOSITION

Composing Room, The, 325 W. 37th St., New York, N. Y.
 Grosby Press, Inc., 56 Gold St., New York, N. Y.
 Monsen, Thormod & Son, Inc., 730 N. Franklin St., Chicago, Ill.
 New York Monotype Composition Co., 461 Eighth Ave., New York, N. Y.

CRAYONS-LITHO

Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
 International Printing Ink Corporation, 75 Varick St., New York, N. Y.
 Korn, Inc., Wm., 120 Center St., New York, N. Y.
 Roberts & Porter, Inc., 100 Lafayette St., New York, N. Y., and 402 S. Market St., Chicago, Ill.

The Quest for Facsimile Reproduction. V. Clough. *Process Engraver's Monthly* 43, No. 514, Oct. 1936, pp. 341-2, 349. A description is given of the new types of diaphragm and screen specified in British Patents no. 452, 578, 452, 647, and 452, 648 (issued in 1936 to W. W. Groves and I. G. Farben-industrie, A.-G.) are described. The screen elements are transparent areas having the form of stars, preferably 3- or 4-pointed, and the diaphragms consist of concentric annular zones having different light transmissions, with one maximum of light transmission in the center and another maximum near the periphery.

The Berlin Photographic Congress. Anonymous. *British Journal of Photography* 83, No. 3980, Aug. 14, 1936, pp. 515-7; No. 3981, Aug. 21, 1936, pp. 531-2. The papers read at the Sixth Congress of the "Deutsche Ges. für Photographische Forschung" held in Berlin, June 5-6, 1936, included the following: (1) "Sensitometry of the Pigment Process" by R. Luther, showing how the density curves of pigment transparencies depend on the exposure; (2) "Dichroic Crystals and Their Use in Polarizing Filters" by M. Haase, a survey giving details of the optical and physical properties of polarizing filters; (3) "The Fundamentals of the Theory of Multicolor Half-Tone Printing" by H. E. J. Neugebauer, deriving the proportions of the eight color components in three-color halftone printing from the proportions of the three inks, according to the laws of probability, and deducing the taking filters in three-color halftone from the basic sensitivity curves.

The Camera Looks at Type. E. Nelson. *National Lithographer* 44, No. 1, Jan. 1937, pp. 16-7. The author discusses the choice of type faces for preparing originals to be reproduced by lithography, and the precautions to be taken to avoid dirty type and imperfect letters, and to ensure type-high letters.

Photo-Lithography at the Exhibition. M. Leeden. *Modern Lithographer and Offset Printer* 32, No. 12, Dec. 1936, pp. 291-3. The author discusses new developments shown at the Ninth International Printing, Stationery, and Allied Trades Exhibition held Nov. 23 to Dec. 5, 1936, in London. His paper includes information on the new step-and-repeat machines, plate-coating and developing machines, and process cameras; and on the Heidenhain method for producing halftone images without a camera (similar to the Tallent process); the Beka positive retouching process, in which tone values are modified by dot control; the new Beka poster process for offset or gravure; and the "Gelloidion" dry plate of Ilfore, Ltd., with an exceptionally thin film yielding extreme opacity, which enables the negatives to be completed in eight minutes.

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Meiners, Bernard, 49 Murray St., New York, N. Y.

Wagner, Charles, Litho Machine Co., 51 Park Ave., Hoboken, N. J.

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Robertson, R. R., 400 W. Madison St., Chicago, Ill.

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Fountain Die Cutters and Finishers, Inc., 155 Sixth Ave., New York, N. Y.

Freedman Die Cutting Co., B., 12 Duane St., New York, N. Y.

DIE CUTTING—MOUNTING

Consolidated Mounting & Finishing Co., 516 W. 34th St., New York, N. Y.

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Carter, C. W. H., 100 Varick St., New York, N. Y.

Hilo Varnish Corporation, 42-60 Stewart Ave., Brooklyn, N. Y.

Litho Chemical & Supply Co., 63 Park Row, New York, N. Y.

Sinclair & Valentine Co., 11 St. Clair Pl. New York, N. Y.

DYNAMOS—MOTORS—PRESS DRIVES AND ELECTRICAL CONTROL EQUIPMENT

American Type Founders Sales Corp., 200 Elmora Ave., Elizabeth, N. J.

Cutler-Hammer Mfg. Co., Inc., 315 N. 12th Ave., Milwaukee, Wis.

General Electric Co., Schenectady, N. Y.

Kimble Electric Co., W. 14th St. & S. Damen Ave., Chicago, Ill.

Northwestern Electric Co., 408 S. Hoyne, Chicago, Ill.

Robbins & Meyers, Inc., Springfield, Mo.

Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

ENVELOPES

Dayton Envelope Co., Dayton, Ohio.

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International Printing Ink Corporation, 75 Varick St., New York, N. Y.

Litho Chemical & Supply Co., 63 Park Row, New York, N. Y.

Parker Printing Preparations Co., 225 E. 44th St., New York, N. Y.

FADE-O-METER

Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill.

FILMS

Agfa Ansco Corp., Binghamton, N. Y.

California Ink Co., Inc., The, 545 Sansome St., San Francisco, Cal.

Croke, Allan A., Co., 163 Oliver St., Boston, Mass.

Eastman Kodak Co., Rochester, N. Y.

Gevaert Co. of America, Inc., The, 423 W. 55th St., New York, N. Y.

Haloid Co., The, 6 Haloid St., Rochester, N. Y.

Hammer Dry Plate Co., Ohio Ave. & Miami St., St. Louis, Mo.

Norman-Willets Co., 318 W. Washington St., Chicago, Ill.

Polygraphic Co. of America, 310 E. 45th St., New York, N. Y.

FLANNEL

Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.

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International Printing Ink Corporation, 75 Varick St., New York, N. Y.

National Offset Supply Co., St. Louis, Mo.

Roberts & Porter, Inc., 100 Lafayette St., New York, N. Y., and 402 S. Market St., Chicago, Ill.

FOLDING MACHINERY

Baum, Russell Ernest, 615 Chestnut St., Phila., Pa.

(Continued from page 67)

A Platemaker's Color Records. R. W. Knipschild. *Inland Printer* 97, No. 5, Aug. 1936, pp. 25-8. This article deals with the making of color records and the uses to which they are put by platemakers. Color records may be tricolor prints (made by the pigment or by the imbibition processes), transparencies, or screened plate transparencies (in which the three colors are recorded on one plate). The advantages and disadvantages of the three types of color record are discussed.

Equipment and Materials


Process and Means of Printing. W. C. Huebner. U. S. Patent No. 2,065,136 (Dec. 26, 1936). The improvement in the process of printing which, when carried out in a press having synchronously operated planographic press plate, and dampening blanket cylinders of the same diameter, includes: dampening and inking the respective clear non-image areas and image areas of the press plate while out of contact with the dampening blanket; then rolling the plate thus prepared in contact with the dampening blanket while the latter is still dry and transferring ink to the dampening blanket on areas corresponding to and always registerable in contact with the image areas of the plate, and thereby rendering said areas of the dampening blanket moistureproof; and, during a run, continuing to moisten the remaining non-inked areas of the work surface of the dampening blanket.

Paper and Ink

Relation of Paper to Offset Lithography. H. H. Hanson. *National Lithographer* 44, No. 1, Jan. 1937, pp. 22, 24. Paper difficulties such as stretch, wavy edges, curl, two-sidedness, ink resistance, and rapid wearing of the plate are explained in their relation to the manufacturing methods used in making the paper, and to press room conditions in the case of stretch and wavy edges.

Paper Judged by Easy Tests. W. B. Wheelwright. *Inland Printer* 97, No. 4, July 1936, pp. 27-31. Simple methods for evaluating paper, requiring only a micrometer gauge and a good magnifying glass are described. Tests for finish, formation, color, cleanliness, sizing, strength, bulk, presence of ground-wood or starch are included.

Instrumentation Studies. II. O. Kress and H. Morgan. *Paper Trade Journal* 103, No. 26, Dec. 24, 1936, pp. 372-5 TS. Definitions are given of paper properties which are considered fundamental. Each of these properties is a direct measure of the ability of a paper to meet some use requirement. In addition to the fundamental properties there are other evaluations commonly made which cannot be considered as measuring fundamental properties. Definitions of these evaluations, which are closely associated with the use requirements of paper, are also given.



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Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.

GRAINING FLINT

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Croke Co., Allan B., 163 Oliver St., Boston, Mass.
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Illinois Litho Plate Graining Co., 913-921 W. Van Buren St., Chicago, Ill.
International Printing Ink Corporation, 75 Varick St., New York, N. Y.
Lithographic Plate Graining Co., 41 Box St., Brooklyn, N. Y.
McKenna, James J., 1015 Callowhill St., Phila., Pa.
Photo Litho Plate Graining Co., Inc., 1207 S. Highland St., Baltimore, Md.
Reliable Lithographic Plate Co., Inc., 17 Vandewater St., New York, N. Y.
Western Litho Plate & Supply Co., 1019 Souard St., St. Louis, Mo.

GRAINING MACHINES

- Fritsche, R., 145 Hudson St., New York, N. Y.
Hoe, R., & Co., Inc., 910 E. 138th St., at East River, New York, N. Y.
Lorenz, Louis, & Co., Inc., Rose and Duane Sts., New York, N. Y.
McKinley Litho Supply Co., 1600 John St., Cincinnati, O.
Zarkin Machine Co., 335 E. 27th St., New York, N. Y.

GUM ARABIC

- Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
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National Offset Supply Co., St. Louis, Mo.
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Roberts & Porter, Inc., 100 Lafayette St., New York, N. Y.
Siebold, Inc., J. H. & G. B., 47 Watts St., New York, N. Y.

HUMIDIFICATION

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Lorenz & Co., Inc., Louis, Rose & Duane Sts., New York, N. Y.
Southworth Machine Co., 30 Warren Ave., Portland, Maine.

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- Hunt, Philip A., Company, 253 Russell St., Brooklyn, N. Y.—2432 Lakeside Ave., Cleveland, Ohio—1076 W. Division St., Chicago, Ill.

INK COMPOUNDS

- Indiana Chemical & Mfg. Company, Indianapolis, New York City, Chicago.

INKS

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Ault & Wiborg Co. of Canada, Ltd., 82 Peter St., Toronto, Ont., Canada.
August Corp., Charles, The, 416 Orleans St., Chicago, Ill.
Bowers Printing Ink Co., 711 W. Lake St., Chicago, Ill.
Braden-Sutphin Ink Co., 1736 E. 22nd St., Cleveland, Ohio
California Ink Co., 545 Sansome St., San Francisco, Calif.
Ceb Printing Ink Co., Chicago, Ill.
Crescent Ink & Color Co. of Penn., 464 N. 5th St., Phila., Pa.
Driscoll, Martin & Co., 610 Federal St., Chicago, Ill.
Eagle Printing Ink Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Flint Ink Co., Howard, 2545 Scotten Ave., Detroit, Mich.
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Gaetjens, Berger & Wirth, Inc., 60 Columbia Heights, Brooklyn, N. Y., and 538 S. Clark St., Chicago, Ill.
General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Herrick Ink Co., Inc., Wm. C., 325 W. 34th St., New York, N. Y.

(Continued from page 69)

Instrumentation Studies. III. By the Staff of the Institute of Paper Chemistry. *Paper Trade Journal* 103, No. 27, Dec. 31, 1936, pp. 383-5 TS. The basic principles of the Thwing formation tester and the results of an investigation of the accuracy of this instrument in grading papers are given in this report.

Grease Resistance of Paper. H. L. Mellen. *Paper Trade Journal* 103, No. 26, Dec. 24, 1936, pp. 369-71 TS. The results of testing various types of paper for grease resistance are given, and a standard method for making such tests is suggested.

The Testing of Printing Ink Vehicles. Anonymous. *American Ink Maker* 14, No. 11, Nov. 1936, pp. 22-5, 41; No. 12, Dec. 1936, pp. 23-6; 15, No. 1, Jan. 1937, pp. 21-4. The importance of standardizing printing ink vehicles is emphasized, and tests are described for the determination of viscosity, specific gravity, color, refractive index, acid number, iodine value, saponification number, odor, livering tendencies, presence of tung oil or of rosin, and the presence of fossil gums.

General

Why Presses Print Long. W. N. Misuraca. *National Lithographer* 43, No. 12, Dec. 1936, pp. 15-7. In offset lithography on tin-plate, the press is printing to size when the length of the impression on the printed sheet is equal to the length of the design on the printing plate, measured after the plate has been fastened to the plate cylinder. The plate surface is lengthened in curving it around the cylinder. Changes in diameter of the blanket cylinder alone will not affect the length of impression. Accuracy of the printed design depends on proper diameters of the plate and impression cylinders. Corrections in print size by changing the diameter of either the plate or the impression cylinder cause undue friction and shorten plate or blanket life. Diagrams and calculations support these statements.

What Is It? IV. Technique and Manipulation of Presses. A. H. Reiser. *Printing Equipment Engineer* 53, No. 2, Nov. 1936, pp. 68, 70, 72. This article takes up the operation of the lithographic press, particularly the adjustment and care of the cylinders, plates, blankets, rollers, and dampeners, the obtaining of register, the feeding of paper, and the choice and use of paper, ink, and blankets.

On Preparing Solutions. W. B. Hislop. *Process Engraver's Monthly* 43, No. 515, Nov. 1936, pp. 357-8. The methods of preparing solutions and of filtering or otherwise treating them after preparation are described. Much of the success of the photo-engraver's work depends upon the use of suitably prepared solutions.

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(Continued from page 71)

Offset Compared with Letterpress and Gravure: Where Do the Processes Stand? W. J. Wilkinson. *British and Colonial Printer and Stationer* 119, No. 412, Sept. 12, 1936, pp. 280, 282. (The material in this paper contained in an address to G. A. R. B., Washington, D. C., 1936.) The advantages of offset over letterpress are summarized as follows: the same number of colors can be reproduced as by letterpress, but with fewer steps, greater speed, and on a greater range of papers. The writer's experience is that an offset press of a given size has three times the output of a typographical press of the same size over the same time interval. A factor which retards the growth of offset business is the difficulty in training men to make plates and the fact that plates have to be made by the lithographer instead of in plants specializing in this work. The advantages of gravure are also discussed.

The Complete Manufacture of Cartons. W. R. Walmsley. *Share Your Knowledge Review* 18, No. 1, Nov. 1936, pp. 15-20, 26. The manufacture of cartons is discussed, considerable attention being devoted to printing the cartons by offset.

Color Contrast in Printing. J. Strachan. *Paper Maker and British Paper Trade Journal* 92, No. 5, Nov. 1936, p. 161 TS. The author discusses briefly the relation between the paper color and the color effect of inks applied to the paper, and the apparent alteration of color effect when masses of given colors are placed in juxtaposition.

Increasing Running Speed. "Inker." *Modern Lithographer and Offset Printer* 32, No. 12, Dec. 1936, pp. 298, 300. Paper quality and condition, more than any other factors, determine the speed of printing. For this reason there is considerable doubt whether high speed machinery is economical unless at least 50 percent of the work consists of long runs on good papers. Mention is made of various advances in registering, feeding, and delivery devices, inking devices, and a new three-color press with a heated duct.

Miscellaneous

Dropping Out Highlight Dots without the Usual Handwork by Etchers and Finishers. O. Roehrig. *Photo-Engravers Bulletin* 26, No. 5, Dec. 1936, pp. 16-8. A rapid procedure is described for removing highlight dots on the copper plate in photo-engraving. The halftone plate is etched, cleaned, carefully rolled up with soft ink, and covered with dragons blood without using a brush. Excess dragons blood is tapped off, the plate is heated to melt the powder, and etched face-up in an etching tub until the highlight dots are removed by undercutting and breaking off. When the dots are gone, the plate is powdered four ways for further depth in deep etching. Practice is necessary for good results, but much time can be saved with this procedure.

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(Continued from page 73)

Photogravure. Anonymous. *Modern Lithographer and Offset Printer* 32, No. 12, Dec. 1936, pp. 293-4, 298. Advances in photogravure practice and machinery, as shown at the London Exhibition, Nov. 23, to Dec. 5, 1936, are described briefly, including the "Wüto" pigment transferring machine, a method for making photogravure plates without use of carbon tissue, and new presses, screens, and other equipment.

Handbook of Chemistry and Physics. (Book). Prepared by C. D. Hodgman, Editor-in-Chief, and published by the Chemical Rubber Publishing Co., Cleveland, Ohio. 21st Edition. 2028 pages. \$6.00. This twenty-first edition of the Handbook represents a twenty-three-year accumulation of data for the scientist and engineer. Several changes have been made in this edition, including a revised form for the numerical tables in the mathematical section and an enlarged photographic section. The sections include: Mathematical Tables; Properties and Physical Constants; General Chemical Tables; Heat, Hygrometry, Sound, Electricity, and Light; Quantities and Units and Miscellaneous Tables. (*Rubber Age* 40, Oct. 1936, p. 37.)

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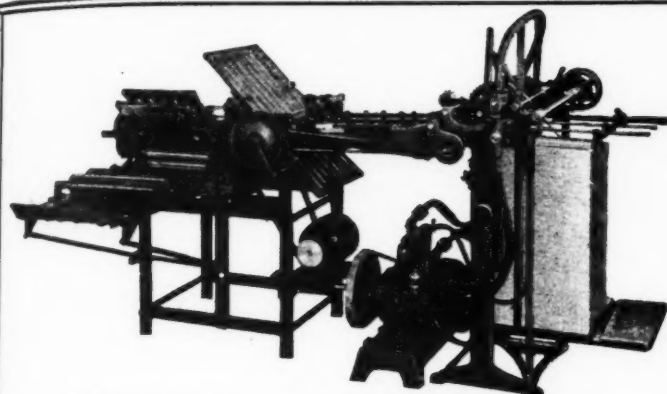
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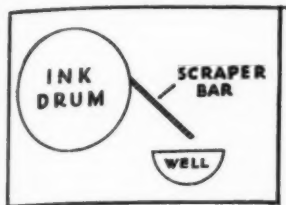
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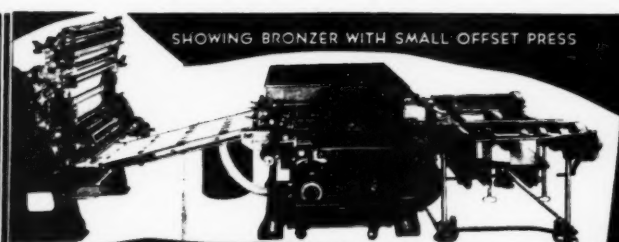
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American Finishing Co., The.....	83	Maxwell Paper Co.....	32
American Graded Sand Co.....	77	Mille, W. P.....	83
Artists Supply Co.....	81	Moore, W. L.....	87
Baum, Russell Ernest.....	77	National Offset Supply Co.....	83
Bingham Sons Mfg. Co., Sam'l.....	55	New England Quartz Co.....	83
Bulkley, Dunton & Co.....	Back Cover	New York Type Transfer Co.....	81
California Ink Co.....	79	Norman-Willets Co.....	69
Carter, C. W. H.....	56	Okie, Francis G.....	82
Chicago Litho Plate Graining Co.....	81	Ostrander-Seymour Co.....	63
Chillicothe Paper Co.....	61	Pease Co., C. F.....	10
Christensen Machine Co.....	52	Peerless Blue Print Co.....	87
Columbia Offset & Reproduction Corp.....	77	Phillips & Jacobs.....	71
Coxhead Corporation, Ralph C.....	69	Photo-Litho Plate Graining Co.....	75
Crescent Ink & Color Co. of Penna.....	71	Pitman Company, Harold M.....	44
Eastman Kodak Company.....	19	Polygraphic Co. of America, Inc.....	56
Fuchs & Lang Mfg. Co., Div. General Ptg. Ink Corp.....	14	Rapid Roller Co.....	4
Gaetjens, Berger & Wirth, Inc.....	53	Rathburn & Bird Co., Inc., The.....	73
Gegenheimer, William, Inc.....	79	Reliable Lithographic Plate Co., Inc.....	58
Gettler, John M.....	83	Repro-Art Machinery Co.....	79
Goerz American Optical Co., C. P.....	75	Roberts & Porter, Inc.....	46
Haloid Co.....	9	Royal Paper Corp.....	59
Hammer Dry Plate Co.....	5	Siebold, Inc., J. H. & G. B.....	43
Harris-Seybold-Potter Co.....	4	Sinclair & Carroll Co.....	54
Henschel Mfg. Co., C. B.....	87	Sinclair & Valentine Co.....	Inside Back Cover
Hilo Varnish Corporation.....	67	Sullebarger, E. T., Co.....	73
Hinson, McAuliffe Corp.....	67	Superior Printing Ink Co., Inc.....	58
Hoe, R. & Co., Inc.....	16	Swart-Reichel, Inc.....	79
Holland, Thor.....	60	Sweigard-Ideal Co.....	82
Hunt Co., Philip A.....	62	Trussell Mfg. Co.....	84-85
Ideal Roller Mfg. Co.....	48	Vulcan Proofing Co.....	8
Illinois Litho Plate Graining Co.....	77	Webendorfer-Wills Co., Inc.....	39
International Paper Co.....	40	Wesel Mfg. Co.....	50
International Press Cleaner & Mfg. Co.....	65	Western Litho Plate Graining Co.....	77
Korn, William, Inc.....	83	"Where-to-Buy-It".....	64-82
Lithographic Plate Graining Co.....	65	Willard Mfg. Co.....	6
Lorenz & Co., Louis, Inc.....	83	Zarkin Machine Co.....	1
Macbeth Arc Lamp Co.....	54	Zeiss, Carl.....	63
Maddox Lithoplate Graining Co.....	83		
Martin, James.....	87		

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